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INDICATIONS FOR FORCEPS DELIVERY

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Forceps delivery in midwifery is one of the most useful, safe and satisfactory methods of terminating labour in the second stage. In spite of, and because of, the increased use of Caesarean section today, resort to forceps delivery should be made far more frequently. The indications for forceps delivery are increasing, and rightly so, if by their judicious application in the second stage more babies are delivered safely and more mothers are spared the distress and exhaustion of the second stage.

The safe application of forceps still depends on a series of absolute conditions. The membranes must be ruptured, the cervix fully dilated, the bladder and rectum empty, and the head through the brim; there must be no undeliverable position of the head, and a general or local anaesthetic must be used. The modern use of a local anaesthetic in the form of a pudendal block is highly satisfactory in most cases. The well-judged timing and placing of a postero-lateral episiotomy is also invaluable. The days of difficult 'high forceps' are now over since these are the cases which call for Caesarean section. 'Trial labour' is still a very useful method of assessing the capacity of the pelvis and the uterine action. There are a few cases where a place for 'trial forceps' is present in which, if it is found that forceps delivery is not going to be easy, it is better to turn to a Caesarean section. Trial forceps are always applied in a theatre fully prepared for Caesarean section.

INDICATIONS

Delay in the second stage is probably the indication most frequently found. Once the patient has been in the second stage for a short time without progression (there is no reason to stick to an arbitrary length of time before terminating the labour, especially in cases where inertia has already produced a long first stage) aided delivery is of marked future psychological and present physical benefit.

Many patients are taught and believe in the efficacy of 'relaxation instruction'. However taught, their first stage of labour is in most cases accomplished with greater ease and therefore with little or no sedation, or sedatives are given later in the first stage than is usual. Previous instruction how to use the voluntary muscles in the second stage makes for greater cooperation and less distress and apprehension. Unless carefully observed, it is not always realized just how much the patient, and how little the uterus, is doing. If the second stage progresses slowly in these cases, forceps should be used, otherwise third-stage inertia and postpartum haemorrhage may develop, despite intravenous or intramuscular injections of one of the ergot preparations.

It is well to remember that the cause of delay in the second stage is most commonly either *inferior uterine contractions* or *poor maternal efforts at bearing down.*

Persistent occipito-posterior position of the head is such a common cause of delay in the second stage that it should always be suspected. Careful examination under anaesthesia is essential, for the true position of the head must be known before forceps can be applied. Whether the instrument is applied with the head in the occipito-posterior position, or whether the foetal head is rotated manually before applying forceps, depends entirely on how well the operator understands the mechanism of this condition and on his skill and experience. If the attempt to deliver the head as a P.O.P. fails, it is because the practitioner does not bear in mind that in cases of spontaneous delivery of P.O.P. flexion of the head on the perineum occurs before extension. Even with flexion and traction the attempt may fail. The forceps should be removed and after manual flexing of the head it should be rotated into the occipito-anterior position. The instrument is re-applied and usually by light and correct traction the head is delivered (provided the head is flexed properly, its diameters are reduced and it can always be rotated). However, when dealing with a posterior occipital position in a patient with an anthropoid type of pelvis this flexion/rotation manoeuvre is unnecessary. The head should be delivered in the posterior position.

Deep transverse arrest of the head is not so commonly encountered, but it should be suspected if the second stage has been in progress for some time and the patient has had no desire to bear down, i.e. she feels she cannot get a 'bite' on the head to bear down. A careful examination should reveal the condition even if much caput obliterates the sutures, for once an ear is palpated posteriorly there is no doubt of the diagnosis. Flexion and manual rotation of the head to an anterior position before forceps are applied make for quite easy extraction. Kielland's forceps, although invaluable in many cases, are not necessary if proper flexion is accomplished.

Face presentation. This condition is comparatively rare and demands that the second stage should not be allowed to proceed too long. Any delay or foetal distress after full dilatation of the cervix should suggest that the position is probably mento-posterior. A careful examination should be made to determine the true position and, if mento-anterior, forceps may be applied. If mento-posterior, extension must be obtained before manual rotation of the head is attempted. After forceps are applied, the blades must be locked under

the pubic arch and *extension increased* before delivery is attempted by traction, flexing the head by the chin under the arc has it descends. Episiotomy is obligatory. Kielland's forceps may be found useful in these cases but the mechanism of extension before rotation and flexion with extraction must be remembered.

Brow presentation. This condition may be corrected to a vertex in the first stage or left to become a face presentation. Careful supervision is essential and many cases are best dealt with by Caesarean section. However, if a brow presentation is encountered in the second stage, forceps delivery is often extremely dangerous because the presenting part after correction is high and in many cases version and breech extraction may be safer for the baby. Care must be taken lest these manipulations result in a ruptured uterus. Caesarean section is preferred to the risk of this complication. There are occasions where version and breech extraction can be quite safely accomplished, especially if the second stage has not been in progress too long in multigravidae. It is possible, however, in a few cases of brow presentation after correction to vertex, to find the head will go into the brim quite readily, in which case forceps delivery can be accomplished with ease.

Regidity of the perineum due either to spasm (associated with fear) or, possibly, to fibrous tissue is a rare, but clear-cut condition. The second stage is delayed because the perineum does not allow the birth of the head. A wide episiotomy under local or general anaesthesia, followed by lifting the head out by forceps, deals with this cause of the obstruction to the normal passage of labour.

On occasion the practitioner might be called in to a patient who has been allowed to remain in labour for too long a time in the second stage. *The head should not be allowed to remain on the perineum for more than 2 hours.* Further delay may be associated with sloughing and the train of its sequelae. Forceps should then be applied, despite the fact that the uterus may not be acting. Thus sloughing is prevented. Uterine action can be stimulated by the injection of ergometrine ·5 to 1 mg. intramuscularly or intravenously once the anterior shoulder of the foetus is born.

Contracted pelvis. Minor degrees of contracted pelvis, which allow the head to descend to the level of the ischial spines, are usually accompanied by delay in the first and second stage so that there is little point in waiting until the mother and/or the foetus become exhausted. Delivery should be assisted by the timely and correct application of forceps.

Forceps delivery of the *after-coming head in breech* presentations is sometimes a most valuable method and preparations for this must be made before the second stage of labour is reached. If difficulty is encountered in the delivery of the head, the use of forceps can overcome this with far less danger to the baby than too forceful manual delivery.

Foetal distress. Unless careful watch is kept on the foetal heart and preparations made for forceps delivery in the second stage, a number of babies will be lost. Auscultation of the foetal heart at regular intervals during the second stage is essential. Should the heart rate gradually rise from the steady 130-140 per minute to 160 and over, no time should be lost in assisting delivery. Slowing and irregularity of the foetal heart rate are also vital signs of intra-uterine foetal anoxia indicating immediate treatment.

Intrapartum haemorrhage necessitates rapid delivery in the second stage. It is well known that the blood pressure rises appreciably in labour so that there is no point in allowing the second stage to continue for any length of time when, by applying forceps, one can shorten this stage, so increasing the chances of the child. This is especially necessary in patients suffering from pre-eclamptic toxaemia, accidental haemorrhage or eclampsia. These conditions are associated with high foetal mortality.

An abnormally short cord, or one that is wrapped round the neck several times, may cause sudden foetal distress in the second stage. A prolapsed cord in the second stage or partial separation of the placenta are all conditions which may arise in labour and are best dealt with by forceps delivery. The occurrence of these conditions in the first stage calls for Caesarean section.

Twin pregnancy. The frequent occurrence of toxaemia and inertia in twin pregnancies calls for a prolonged, but thorough, observation throughout labour. It is obligatory to palpate the mother's abdomen carefully after the first twin's birth, correcting any malposition. It is essential to listen to the foetal heart because any deviation from the normal warrants immediate delivery.

The membranes of the second sac are ruptured and the second twin, if presenting by its vertex, delivered by forceps. In some cases delivery by version and extraction by the breech is to be preferred if there is insufficient descent of the head through the brim, or if the second baby is larger, which makes the application of forceps to a high mobile head a rather hazardous manoeuvre.

Previous Caesarean section. With the great increase in the number of Caesarean sections which are being done for conditions other than disproportion, a careful and particular guard has to be kept lest the uterus rupture in late pregnancy or in labour. Once the patient has arrived in the second stage safely, delivery should be terminated by instrumental means. This is mandatory, for, even in patients who have had previous vaginal deliveries, there is great danger of partial rupture if not complete rupture of the scar. It most commonly occurs in the second stage of labour.

Maternal distress. Women bear labour very differently, and consequently it is necessary to interfere earlier with some than with others. Assessment of maternal distress is a very subtle thing and it begins quite early in labour in many cases. It is often found that the pulse rate may be 90 or even 100 beats per minute quite early in labour. A steadily rising pulse rate must always be looked upon as a danger signal. The same applies to a steadily rising temperature. Sweating, restlessness, acidosis and dehydration are also symptoms of distress. A patient may become very apprehensive and yet no other signs of distress are apparent. Tenderness over the lower segment is a danger sign. If the second stage is present and the head is low enough, deliver by instruments, otherwise a Caesarean section must be carried out immediately.

Cardiac cases are usually best rested in bed for the last few weeks or even months of pregnancy, depending on the severity of the cardiac condition. Labour is allowed to proceed normally until the second stage is reached, when forceps should be applied. Pudendal block anaesthesia is given before exhausting attempts at bearing down are allowed.

Other conditions which call for treatment on the same lines as cardiac cases are chronic asthma, bronchiectasis, and pulmonary tuberculosis. Not to be overlooked on any account are the 'grand multiparae' who almost always have some complicating condition such as poor abdominal walls, minor degrees of myocarditis and often essential hypertension.

Elderly primiparae seem to be encountered to a greater extent today than ever before and, unless they have some condition which calls for Caesarean section, they take great pride in showing how well they are able to deliver themselves normally. They should not be allowed to remain in labour for too long a time. The slightest delay in the second stage should call for instrumental assistance.

Diabetics do not necessarily require Caesarean section—especially multiparae who have had previous vaginal deliveries and where labour is induced 3 or 4 weeks before term. Forceps delivery in the second stage may be required in most of them. This disease has a very high foetal death rate, particularly in the neonatal period. No strain should, therefore, be allowed during the second stage. These infants are placed in an incubator for at least a week following delivery, no matter what their birth weight might be.

Anaesthesia is dangerous for both mother and baby. The inhalation of vomitus may be lethal—especially when the mother has been given glucose water as readily assimilable food. The inhalation aspiration of glucose water and gastric hydrochloric acid is phenomenally dangerous. The effect of the aneasthetic on the baby is depressing and often lethal. The deleterious effects of anaesthesia on uterine action in the third stage of labour are well known.

Pudendal block not only obviates all these risks but has the added untold advantage of making it possible for the doctor to undertake the operation alone, i.e. no matter how remote the practitioner may find himself from the assistance of a colleague.

Do not think from the foregoing that a more radical approach to midwifery is advocated. It is not! It is far better in all cases proceeding normally, who have no other complications, to leave them to deliver spontaneously. Careful watch and supervision of the woman in labour will show the slightest deviation from the normal and it is in these cases that an early termination of the second stage is so valuable in saving babies and in the prevention of maternal exhaustion. A reasonable approach, the correct one, may well lead to a higher but safer incidence of forceps application.

SUMMARY

The indications for forceps delivery may be summarized as follows:

Conditions to be fulfilled

The safe application of forceps depends on the following condition: (i) Acting uterus, (ii) membranes ruptured, (iii) empty bladder, (iv) empty rectum, (v) os fully dilated, (vi) head engaged by its largest diameter for the particular presentation and (vii) anaesthesia—general or, preferably, local.

Indications

(i) Delay in the second stage, due to: (*a*) Inferior uterine action, (*b*) poor bearing-down efforts, (*c*) abnormal presentations, e.g. persistent occipito-posterior, transverse arrest, face and brow and after-coming head in breech, (*d*) tight fit—in minor disproportion where mechanical help is needed, and (*e*) rigid soft parts.

(ii) When the head has been on the perineum for 2 or more hours.

(iii) Foetal distress.

(iv) Prolapsed cord (with fully dilated os).

(v) Maternal distress.

(vi) Maternal disease, e.g. heart disease, tuberculosis, diabetes, etc.

PUBLIC HEALTH PROBLEMS*

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During a recent discussion on the future of Public Health in South Africa at a representative meeting of Medical Officers of Health I was decidedly surprised by a statement from one of the senior members to the effect that eventually environmental sanitation would become the province of the City Engineer, leaving to the Medical Officer of Health only general health supervision as presently exists with water supplies and cleansing services. I was taken aback not only because such a statement, with its profound repercussions on health in this country, should be made but also because of the absence of a strong reaction from the members present. It appeared that there was a general acceptance of the suggestion or at least no marked aversion. Yet if this change did occur, it would represent the demolition of what has always been the main pillar of public health throughout the world and a sphere of endeavour in which much remains to be done in the areas of even the most highly developed health authorities.

SOCIAL MEDICINE

I puzzled over the matter, seeking a reason for this opinion about the future of environmental sanitation, and gradually came to the conclusion that it was associated with the conscious or unconscious development of an appreciation that in this world of welfare states and socialization, public health must expand and keep in concert with modern expectations. Social medicine is coming ever more to the forefront and is demanding increasing attention to man's physical and emotional well-being and less to the mechanics of his environment. In other words there is developing a far wider concept of Health, with a realization that its ramifications extend into all branches of medicine and, indeed, into practically all aspects of life and living. We should always remember that the constitution of the World Health Organization describes health as a fundamental right of every human being.

What are these fields into which health administration must expand? They are legion, for the social fabric itself has come to be regarded as relevant to the problems of health and disease. Has not Professor Grundy of the University of Wales given the following definition? 'Social Medicine is not merely another name for public health or socialized medicine. It embodies a particular research method, an aspect of education for health, and above all a new point of view which often finds expression in the socialized medicine of our day. It is the common meeting-place of preventive and therapeutic medicine, a borderland fringing medicine as a whole, a region where medicine merges with economics, sociology, ethics and the machinery of government. Its approach to medical problems is broad and humanistic, and it has much to contribute to clinical studies. It is a name for the resources—other than medical resources—which can be used to help relieve sickness and mitigate its social consequences'.

Surely one of the main demands is a closer integration of curative and preventive medicine. It is the most unfortunate feature of all major revisions in the reorganization and reconstruction of medicine that treatment and prevention have been more or less rigidly separated. The National Health Service in Britain is by and large essentially a curative service. Our own Gluckman health scheme had as its most undesirable imperfection the division of health services into personal and non-personal. The prevention

* Presidential Address to the 16th Annual Health Congress of the Health Officials Association of Southern Africa, Johannesburg, October 1958.

of ill-health demands a knowledge of the earliest stages of disease, in fact a recognition of the factors existing in the 'pre-disease' phase. This knowledge is within the scope of the general practitioner, and a welding together of the information from this source with the epidemiological appreciation of the sanitarian will produce over the years a new concept in the elimination of many diseases. Isolated instances of this cooperation do exist, notably in the investigation into cancer and rheumatic diseases, but Public Health must widen its environs beyond the boundaries of infectious diseases. Traditionalism must not become a menace to preventive work. Fundamental to this new outlook must be a change in teaching methods, and it is of interest to note that in 1956 WHO held a conference on public-health training of general practitioners. This conference found that generally throughout the world the preventive side is lost in conventional clinical instruction, and recommended that in the student days the importance of the preventive and social aspects of medicine must be inculcated, and that general practitioners should be kept informed of what the health department is doing and how it is prepared to assist them in their work.

Here we have a field where immediate cooperation can be encouraged and the barriers existing between the practising doctor and the health department broken down. Our aims are the same though the approach is from different angles—theirs that of the individual and ours of the community. The health department, through its health inspectors and health visitors collects much information which could be of assistance to the practitioner in his understanding of his case—housing, overcrowding, insanitation, economic conditions, statistical information, and so forth. Similarly the medical practitioner can refer back his own observations and a partnership of common interest be established. At Oxford, and also in London, health visitors have been seconded from their respective health departments to work in liaison with group medical practices. They attend sessions with the doctors, give them the benefit of their knowledge of the health problems of the whole family, and generally supervise the baby welfare and infant feeding laid down by the medical practitioner. Cordial relations have developed between doctor and health visitor—relations which do not universally exist in South Africa.

There are many other ways in which the barriers between health officials and those who practice therapeutic medicine could be broken down and true collaboration be developed in order to further the attainment of positive health. For we believe with Dr. Cyril Banks that, 'We aim not only to postpone death but to prevent illness, with its train of sequels, bodily and financial. We aim to make the path of sufferers smoother. We aim to lessen the social difficulties caused by illness. We aim to improve environmental conditions so that family life may be happier and healthier. We try to make things more convenient for expectant and nursing mothers, not merely safer. We try to help mothers to raise their families in a state of health, bodily and mental'.

HEALTH EDUCATION

Health education is becoming increasingly more important and it is imperative that health departments should take a leading part. The recent memorandum from the Secretary for Health is thus doubly welcomed in that it reinforces the appeal made last year by our President and the recommendations made by Congress. Health education is the basis of true disease prevention; only by the propagation of health knowledge can the public be expected to seize the advantages of the health security available to them. Health authorities must take advantage of the awakening interest of the people as a whole.

In a society that exhibits a high rate of divorce and suicide, a breakdown of family life and a great percentage of discontented restless persons, health departments have a definite contribution to make because such conditions are adverse to the health of the individual family and to the community. At present this is the sphere of voluntary organizations working in isolation from health departments. The important and topical subject of mental health is to form the subject of one of the sessions of the present Congress.

After referring to atmospheric pollution and atomic energy in industry and other fields as health problems the speaker proceeded:

OLD AGE AND CHRONIC DISEASE

Geriatrics and the public health aspects of chronic disease present new fields for health authorities, including the provision of accommodation and the making available of domestic help. A new field of medicine is opening up and the public health implications will in future form one of our major preoccupations. The prevention of chronic disease brings us straight into the realm of general medicine and emphasizes the need for collaboration. How else can prevention be developed without utilizing the vast store of medical knowledge about such diseases as cancer, rheumatic diseases, cardio-vascular diseases, chronic respiratory disorders and diabetes? The aetiology of these diseases is largely obscure, and much research is necessary in the evaluation of their earliest stages—an excellent field for the intervention of preventive medicine. Prevention depends upon detection of the disorder and this implies periodical medical examinations, which have their limitations in medical man-power. This has led to the introduction of screening designed for application to groups of persons and relying upon a series of tests and other procedures of rapid use to provide presumptive evidence or absence of disease. A proper educational approach is necessary to secure optimum response from groups of the population and thus bring the benefits of early detection to the masses of the people. Multiphasic screening makes possible the simultaneous testing for tuberculosis, diabetes, anaemia, syphilis, hypertension, hearing defects and certain forms of cancer and heart disease.

The rehabilitation and the social security of the chronic sick and the elderly person are also our concern and there are many ways in which we could assist. One excellent service in Britain is the provision of domestic helps to provide visiting, home care and feeding for the sick, the aged and the mentally ill, and latterly in the handling of problem families. One of the fears of the aged is to be moved away from their homes to an institution. Assistance by home helps would provide a solution and would save the demand on hospital accommodation.

PUBLIC HEALTH RESEARCH

It is pleasing to note that one session in our Congress is being devoted to Research. We have tended to lag behind in public health research and have neglected many possibilities of research in the social sciences which would be productive of lasting good. As one writer put it, what the laboratory bench is to the virologist, what the medical ward is to the clinical investigator, the community should be to an inquiring health officer. Allied to this is the need for greater development of epidemiological and statistical investigations and recording in South Africa than is the case at present. Good public health practice is based on research and research relies upon adequate statistical data. Is there not a case here for greater central direction?

I do not claim to have covered this vast subject and have made no mention of such important topical matters as nutrition, water fluoridation, midwifery services etc. One point comes to mind. Would not the objects be greatly furthered by the creation in the Department of Health of more specialistic posts for specific purposes such as Health Education, Epidemiology, Radiation and so on? This would give greater impetus and coordination. Precedent exists already in the case of Tuberculosis. The positions need not necessarily be filled from within the Department. Promotions from Local Authority service should be entertained. Why not a Planning and Coordinating Committee comprising initially Central and Local Authority health representation, and later adding other membership from the Medical Association and Provincial Councils?—not a large body like the National Health Council but a committee unfettered by statutory and other restrictions—small, selected and active.

CONCLUSION

In conclusion may I leave with you the aspirations of William Morris and ask you whether he was begging for Utopia when he demanded:

'First of all I claim good health. To feel mere life is a pleasure; to enjoy the moving of one's limbs and exercising one's bodily powers; to play, as it were, with sun, wind and rain; to rejoice in satisfying the due bodily appetites of the human animal without fear of degradation or sense of wrong-doing: Yes, the wherewithal to be well formed, straight limbed, straightly knit, expressive of countenance—to be in a word beautiful—that also I claim.'

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EDITORIAL : VAN DIE REDAKSIE

TRANSAMINASE ACTIVITY IN DISEASE STATES

Transamination may be defined as a 'chemical reaction in which an amino group is transferred from one molecule to another without the intermediate participation of ammonia.[1] Braunstein and Kritsman in 1937 laid the foundation for an understanding of the enzymatic mechanisms by which this process takes place, and they postulated the existence of two enzymes: glutamic and aspartic aminopherases. Later Cohen introduced the term transaminase, which is now preferred by European and American workers.

Enzymes catalysing different transamination reactions are widely distributed in animal tissues and in man. In decreasing order of concentration the distribution is: heart, liver, skeletal muscle and kidney.[2] This fact prompted Karmen, Wròblewski and LaDue[3] to determine if transaminase activity could be demonstrated in human serum and, if so, to study variations in activity of this enzyme in the blood of normal and diseased man. It has been shown that necrosis of cells rich in enzyme results in liberation of excess enzyme into the circulation. The two transaminases of present clinical interest are glutamic-oxalacetic and glutamic-pyruvic.

Serum glutamic-oxalacetic transaminase (SGOT) has been measured chromatographically, spectrophotometrically and colorimetrically. The colorimetric method is preferred to the spectrophotometric method since reagents are more easily obtained and the estimation more easily performed. Results obtained by the two methods appear to agree satisfactorily.[4] Colorimetrically, SGOT is expressed as units per ml. of serum. The mean activity of normal adult sera is $16{\cdot}4 \pm 8{\cdot}4$ units with a range of normal of 4-40 units. The mechanism for excretory and/or secretory handling of the enzyme is unknown, but the presence of the enzyme in small amounts in the urine and bile suggests that renal and biliary routes may contribute in this respect.[5]

Raised SGOT levels occur in myocardial infarction. The rise may begin as early as 3 hours after the onset and the enzyme returns to normal in 1-8 days, often by the end of the third day. The optimal time for observing the peak transaminase activity is 24 hours after the onset of pain. The SGOT may rise from 2 to 20 times the normal level, and the height of the enzymatic activity is roughly proportional to the size of the infarct. Failure to find the elevation after myocardial infarction can usually be attributed to failure to get early and serial enzyme determination. Levels above 200 units per ml. carry a bad prognosis.[6-8] No increase in SGOT has been recorded in angina pectoris, coronary insufficiency, heart failure or cardiac arrhythmias. SGOT levels are a valuable indication of infarction: (*a*) where there is an absence of Q waves on ECG, (*b*) where the ECG pattern is obscured by previous infarction, and (*c*) in patients with left bundle-branch block.[9]

High transaminase values have been recorded in acute myocarditis, acute pancreatitis, haemolytic crises, extensive crushing injuries, after surgery, and after administration of large doses of aspirin.[10] On the other hand, levels are normal in pericarditis, pulmonary infarction, rheumatic fever, rheumatoid arthritis and acute cholecystitis.

Both SGOT and serum glutamic-pyruvic transaminase (SGPT) are elevated in the presence of liver disease involving cellular necrosis, SGPT being the more sensitive index. Elevation of serum-enzyme levels occurs 1-4 weeks before other clinical or laboratory evidence of liver injury becomes manifest in patients exposed to infectious hepatitis. Lesser elevations of SGOT and SGPT are found in cirrhosis of the liver, obstructive jaundice and metastatic carcinoma of the liver. SGOT is an index of liver-cell injury and does not necessarily correlate with the usual tests of liver dysfunction.[11] More recently Latner and Smith[12] have used the SGOT/alkaline-phosphatase ratio in an attempt to differentiate hepatocellular jaundice from extrahepatic jaundice.

Transaminase activity in the cerebrospinal fluid has been measured and is about half that of the serum.[13] GOT levels are elevated in patients with acute non-haemorrhagic cerebral vascular accidents (cerebral thrombosis and embolism). The greater the infarcted area of the brain, the higher is the increase in enzymatic activity of the cerebrospinal fluid. Other conditions associated with raised transaminase activity include head injuries, and some cases of cortical degeneration, while intracerebral tumours, multiple sclerosis and epilepsy have normal cerebrospinal-fluid GOT values. While it is still disputed whether there is an effective blood/spinal-fluid barrier to transaminases in man, it seems certain that conditions associated with an elevation of the cerebrospinal-fluid transaminases may, in addition, show increased activity of the enzymes in the serum.[14]

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DIE KLEIN BEROERTETJIE

Die *groot* onvermoë en ongeskiktheid wat so dikwels ontstaan as gevolg van 'n *klein* beroertetjie word al te dikwels nie raakgesien of behoorlik na waarde geskat nie. Dat daar verskil van mening bestaan oor die opvatting van 'n ‚klein beroertetjie', ly geen twyfel nie. En dat interniste en neuroloë dikwels skepties staan teenoor die diagnose van 'n klein beroertetjie, tensy daar duidelike liggaamlike tekens is, is ook duidelik. Tóg voel ons dat die begrip van die

klein beroertetjie, selfs sonder duidelike liggaamlike tekens, in die belang van praktisyns en pasiënte duideliker omskryf en beklemtoon behoort te word. Baie onnodige verdriet en lyding, en ook baie onnodige onkoste, word veroorsaak omdat hierdie saak nie helder gestel word nie.

Beroertes word gewoonlik veroorsaak deur serebrale vaatversteuring. Die algemene voorbeelde van sulke vaatversteurings is trombose, bloedings, en embolie. Ons moet egter altyd in gedagte hou dat 'n beroerte 'n enkele voorval is in die proses van 'n algemene gestelsiekte, aan die grond waarvan ateroom, arteriosklerose, hipertensie, maligniteit en baie ander patologiese prosesse kan lê. Deur hierdie stelling te maak gee ons dus alreeds te kenne dat ons bewus is van verskillende moontlike onderliggende toestande, en veronderstel ons dat 'n volledige ondersoek van die pasiënt uitgevoer moet word.

Die gewone kliniese gronde waarop die diagnose van 'n beroerte gemaak word, is duidelike liggaamlike tekens, byvoorbeeld, verlamming van die onderste gedeelte van die gesig (en versteuring van spraak indien die spraaksentrum aangetas is), verlamming van die hand, been en voet, ens. Die punt wat ons wil maak is dat ons in ons teken-kompleks ook minder direkte tekens moet insluit soos effense versteuring van fynere funksies van die vingers (‚my linkerhand voel dom as ek klavier speel'), effense versteuring van spraak (‚my tong wil nie reg val vir al die klanke nie'), en emosionele versteurings.

'n Duidelike beroerte met duidelike tekens kom dikwels eensklaps aan. So 'n toestand behoort nie moeilikheid wat betref kliniese diagnose op te lewer nie. Dikwels egter is daar 'n geskiedenis van herhaaldelike klein aanvalle van skerp hoofpyn met verbygaande tydperke van verwarring, verlies van selfvertroue, bangheid, onvermoë om so vinnig te reageer soos vroeër, ens.—en hierdie geskiedenis word dikwels die eerste keer ontbloot nadat daar 'n groot aanval gekom het met duideliker tekens. Ons moet in staat wees om hierdie tekens reeds al vroeg te erken en na waarde te bepaal. Ook moet ons in staat wees om tekens van versteuring van geestesfunksie as tekens van beroerte te erken. Dit sal ons in staat stel om baie besorgdheid vir ons pasiënte en vir ons self te bespaar. Ook sal dit ons in staat stel om meer positief te kan optree.

Die vroeë diagnose van vaatversteurings is nie soos in die verlede slegs van akademiese belang nie. Ook op die gebied van terapie het vroeë diagnose belangrik geword. In 'n onlangse inleidingsartikel[1] toon *The Lancet* aan ‚dat die hantering van 'n pasiënt wat beroerte gehad het in die verlede geen probleem opgelewer het nie. Die dokter se keuse het gelê tussen meesterlike onaktiwiteit en knaphandige verwaarlosing. Die toestand van sake is nou anders en moeilik. Met antistollingsmiddels soos fibrinolisien, met hipotensiemiddels, met vergrote kennis van die fisiologie van die hart, met hipotermie, en met 'n aantal suksesvolle chirurgiese behandelings tot ons beskikking, kan die dokter nie meer so seker wees dat dit die beste aanbod is wat hy het om aan sy pasiënte te maak *om niks te doen* nie'. Daarby is die sielkundige behandeling van die geval van die allergrootste belang.

Die dokter moet dus in staat wees om vroeg al te weet wat sy pasiënt makeer, om hom nie onnodig met bekommernis of uitgawe te belas nie, en om te kan oordeel of hy sy pasiënt in vrede moet laat en of aktiewe behandeling onderneem moet word. Die grondslae vir die praktiese benadering van hierdie probleem is reeds 'n geruime tyd gelede al geformuleer deur Alvarez[2] in sy boek *The Neuroses* wat getuig van veel mensekennis en uitmuntende praktiese oordeel. Elke praktisyn behoort hierdie boek te besit.

1. Editorial (1959): Lancet, **1**, 293.
2. Alvarez, W. C. (1951): *The Neuroses*, p. 194. Londen: Saunders.

THE CORONARY ARTERIES OF THE BANTU HEART*

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Death due to coronary thrombosis among the Bantu-speaking South African negroids—apparently of Negro-Hamitic origin and commonly referred to as 'the Bantu'—is rare.[1] Angina pectoris and myocardial infarction due to coronary thrombosis are rare diseases in the Bantu.[2] Furthermore, at autopsy, the mild degree of coronary atherosclerosis is a striking feature. Since the publication of Brink's preliminary report[3] in 1949 on the coronary artery pattern in the adult Bantu, the above facts have, at times, been attributed to a racial morphological difference in the coronary artery distribution, thus implying a functional distinction. However, Elliott[2] stated, without elaborating on his contention, that the peculiarity of the arterial pattern had 'probably little if any bearing on the low incidence of coronary artery disease syndromes in the South African Bantu'.

Brink[3] listed the distinctive features of the Bantu pattern, based on the radiographic appearance of the injected coronary vessels of 17 European, 15 Bantu, and 1 Coloured hearts, as:

(1) The presence of a 'third primary division' of the left coronary artery.
(2) A high-terminating anterior-descending branch of the left coronary artery.
(3) Right coronary 'preponderance'.

As a member of a team† who surveyed coronary thrombosis and atheroma, my attention was drawn to the possibility that Brink's conclusions may constitute a racial or genetic factor influencing our data. It was therefore decided to check Brink's data and conclusions. Although the purpose of this paper is mainly to consider and discuss Brink's conclusions in the light of new data, other observations which have been encountered will also be presented.

MATERIAL

All available hearts of cadavers from the dissecting-room of the University of Cape Town were collected, and autopsy specimens have been obtained from the Pathology Department of the University of Cape Town and the South African

* A preliminary report was read at the South African Medical Congress in Pretoria in 1955. A modified form of this paper was read before the Anatomical Society of Great Britain and Ireland in London in September 1957, and abstracted in the *Journal of Anatomy* (London) (**92** (part 4), 634) of October 1958.

† Organized by Prof. J. F. Brock and Dr. B. Bronte-Stewart, of the Department of Medicine, University of Cape Town, and the Council for Scientific and Industrial Research—University of Cape Town Clinical Nutrition Research Unit.

Police Morgue, Cape Town. Ten hearts were also received from the Police Morgue, Nairobi. A total of 278 hearts from 86 European South Africans, 109 Cape Coloured‡ and 83 Bantu subjects were carefully dissected. In the present paper the left coronary artery (A. coronaria sinistra) and its branches will be chiefly considered.

OBSERVATIONS

The observations are mainly concerned with Brink's 'third primary division of the left coronary artery'. This terminology was originated by Brink,[3] who otherwise followed Spalteholz's classification,[4] which is neither satisfactory nor in current usage. The terminology used below is in accordance with the *Nomina Anatomica* accepted by the Sixth International Congress of Anatomists, 1955.

Variations in the coronary arteries and their branches have been recorded previously by Campbell,[5] but while most investigators have studied the anastomoses and the variations of the origins of the right and left coronary arteries from the aorta, little attention has been paid to the incidence of the variations of the branches of the major divisions of the coronary arteries. Gross[6] briefly comments on such variations, and his description is generally in accordance with my observations (*vide infra*). Schlesinger[7] stated that all investigators of the coronary artery tree find that its pattern is distinctly inconsistent.

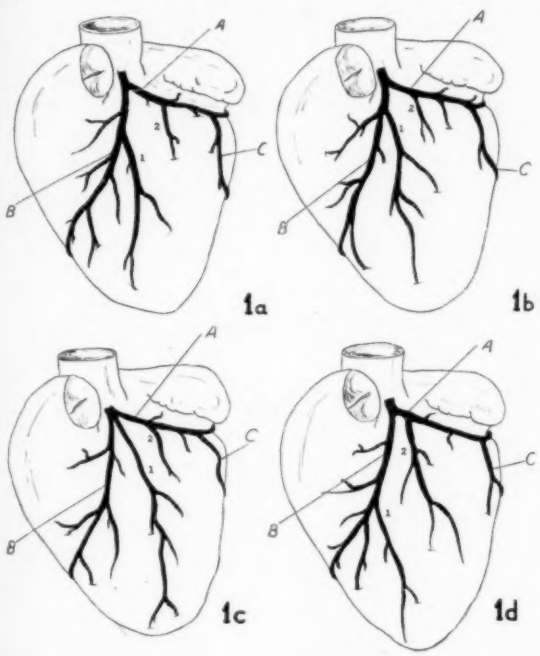

Fig. 1. Schematic representation of the variations of the major left ventricular artery. *Figs.* 1*a*, *b* indicate the commonest sites of origin. In *Fig.* 1*c* the major LVA arises at the bifurcation, while in *Fig.* 1d it arises low down and the minor LVA takes over the distribution of most of the anterior wall of the left ventricle.
A—ramus circumflexus; B—ramus interventricularis anterior; C—left marginal artery; 1—major LVA; 2—minor LVA.

‡ The Cape Coloured people are a local 'hybrid' population whose basic ancestry is composed of White Caucasoids, Hottentots and Malays, while a minimal Bantu element may also be considered to have contributed to their genotypes. It has only taken about 250 years for this group to 'evolve'.

About 1-2 cm. beyond its origin from the aorta, the A. coronaria sinistra usually divides into its 2 primary trunks—the ramus circumflexus and the ramus interventricularis anterior (following the nomenclature of the *Nomina Anatomica*, p. 32). The ramus circumflexus (usually referred to as 'the parent trunk of the left coronary artery', *vide infra*) turns to the left in the atrioventricular groove, wherein it passes backwards round the left margin of the heart in company with the coronary sinus as far as the posterior interventricular sulcus, where it finally reaches, or partially anastomoses, with the right coronary artery. The ramus interventricularis anterior descends in the anterior interventricular sulcus to the incisura cordis. This is the 'anterior descending' branch of Spalteholz referred to by Brink. This ramus in turn gives off a number of branches to the ventricular walls on each side of the anterior interventricular sulcus: these have occasionally been called 'marginal branches'. Commonly, a large unnamed 'marginal' branch is given off by the ramus interventricularis anterior a short distance below its origin. This vessel, which courses towards the apex of the heart, has a number of small branches; I shall designate it the *major left ventricular artery* (abbreviated—major LVA). Spalteholz[4] called it the 'primary anterior descending', while the continuation of the ramus interventricularis anterior below the origin of the major LVA he named the 'secondary anterior descending'. The 'primary anterior descending' branch plus the short trunk above it were included in the term 'anterior descending branch'. This terminology, however, is very confusing.

The major LVA is extremely variable in its origin (*Fig.* 1a-c) and it commonly (Table I) arises at the site of bifurcation of the 2 primary trunks (*Figs.* 3A, 3B; *Fig.* 1c); when it arises here it has been called the 'third primary division' by Brink. The area supplied by the major LVA may also often receive another vessel, which arises from the ramus circumflexus at a varying distance from its origin at the bifurcation of the left coronary artery. This branch of the ramus circumflexus, which I designate the *minor left ventricular artery* (minor LVA), is a rather constant branch arising proximal to another large branch, which has been called the 'left marginal artery' by Wood Jones[8] and others. I have not been able to trace who first used this term. In this series it is observed that the minor LVA may supplement the major left ventricular artery or may replace it in supplying the anterior surface of the left ventricle. The origin of the minor LVA also varies considerably (Table III) and, commonly, it too may arise from the left coronary where it bifurcates into its two primary divisions (*Fig.* 3B). This explains some of Brink's cases of 'third primary division'. These variations are not surprising because these arteries are merely enlarged vasa vasorum developed to fulfil the needs of the heart musculature.

Of the 278 specimens examined, only 91 exhibited the 'third primary division' (3 PD). The 'race' and sex distribution are summarized in Table I. It is clearly indicated in

TABLE I. DIFFERENCES BETWEEN THE 3 RACIAL GROUPS

		Third Primary Division				% Present in total (Male and Female)	Female/Male Ratio	
		Absent	%	Present	%		Present	Absent
White (South Africans) (86)	Female	20	61	13	39			
	Male	36	68	17	32	35	·7	·6
Cape Coloured (109)	Female	25	69	11	31			
	Male	51	70	22	30	30	·5	·5
Bantu (Africans) (83)	Female	10	56	8	44			
	Male	45	69	20	31	34	·4	·2

Table I that there is no significant difference between the 3 racial groups as far as the presence of the 'third primary division' of the left coronary artery is concerned. Moreover, there is also no significant sex variation. The Bantu female series is really too small to be expressed as a percentage, but even here the 3 PD is usually absent. The sex ratio in the Bantu is not representative because of the small number of females compared with the large number of males in the series. Consequently Brink's conclusions, based upon a very small series, may no longer be considered valid.

The proof of the view that the 3 PD is merely a variation of the major or minor left ventricular artery is furnished by the following data: When the 3 PD was present it 'replaced' either the major or minor LVA as shown in Table II. In only one case were both (represented as small branches) present in addition to the 3 PD.

Since there is no necessity to break the data down to sex and race distribution, it can be observed that in 44 cases (out of 82) the minor LVA arose at the bifurcation of the left coronary artery and in 35 cases the major LVA arose at the bifurcation. In 2 cases a large vessel arising at the bifurcation supplied the area of the left ventricular wall usually subserved by both the major and minor left ventricular arteries.

In order to verify the different origins of the major and minor left ventricular arteries, an analysis was made later of those hearts in which the observations could still be determined. It was noted whether each artery arose: (*a*) within 1 cm. of the bifurcation of the left coronary artery, (*b*) 1-2 cm. from the bifurcation, and (*c*) beyond 2 cm. from the bifurcation. The results are indicated in Table III. Thus, of 173 instances of the minor left ventricular artery, 151 arose within 1 cm. of the bifurcation of the left coronary artery, while 20 arose between 1 and 2 cm. away and 2 cases were beyond 2 cm. from the bifurcation. In 167 cases with a major LVA, 82 arose within 1 cm. of the bifurcation, 55 were 1-2 cm. away and 30 were beyond 2 cm. Because of occasional tortuosity of the formalinized vessels and because measurements could not be exact, (*a*) and (*b*) should be considered together.

It was also possible to analyse 117 specimens for the combinations of the positions of origin of the major and the minor LV arteries. For simplicity, the major LVA is designated as 1 and the minor artery as 2:

1 (*a*)+2 (*a*), 48 cases
1 (*a*)+2 (*b*), 36 cases
1 (*a*)+2 (*c*), 20 cases
1 (*b*)+2 (*a*), 4 cases
1 (*b*)+2 (*b*), 4 cases
1 (*b*)+2 (*c*), 3 cases
1 (*c*)+2 (*a*), 1 case
1 (*c*)+2 (*b*), 1 case

TABLE II. REPLACEMENTS OF THE 'THIRD PRIMARY DIVISION'

		Replaces major LVA	Replaces minor LVA	Replaces both	Both present
White (South Africans) (30)	Female	7	6	1	
	Male	8	8		
Cape Coloured (28)	Female	4	6		
	Male	8	10		
Bantu (Africans) (24)	Female	5	2		
	Male	3	12	1	1
Total 82		35	44	2	1

When both vessels occurred in the same specimen, they both arose near the bifurcation of the left coronary artery. It was noted that occasionally 2 vessels arose at the same site in the case of the minor LVA. When the major and minor branches were small and supplied less than half of the anterior surface of the left ventricular surface, then the anterior interventricular artery gave off a number of branches which coursed in the direction of the apex to supply the rest of the anterior surface.

TABLE III. THE VARYING ORIGIN OF THE MAJOR AND MINOR LEFT VENTRICULAR ARTERIES

Minor left ventricular artery	*White*	*Coloured*	*Bantu*
a (<1 cm.)	48	55	48
b (1-2 cm.)	8	8	4
c (>2 cm.)	1	1	0
Major left ventricular artery			
a (<1 cm.)	31	25	26
b (1-2 cm.)	16	25	14
c (>2 cm.)	11	17	2

DISCUSSION

Each of Brink's criteria will be considered and in turn elaborated.

1. *The Third Primary Division of the Left Coronary Artery*

The new data clearly indicate that the variation in the supply of the left ventricular wall described by Brink is an individual one and not a racial one, appearing as frequently

in Europeans and Coloured people as in the Bantu, irrespective of sex. The 'third primary division' is merely a variation of the major or minor left ventricular artery.

2. *High Terminating Anterior Descending Branch of the Left Coronary Artery*

In this regard Brink does not define metrically what is meant by 'normal', 'high' or 'low' termination. However, this 'high terminating anterior descending branch' is only an occasional reflection of the presence of his so-called 'third primary division'. In many of those cases (in each racial group) where the anterior surface of the heart is supplied by a large minor LVA, arising either at the bifurcation of the left coronary or from the ramus circumflexus, the major LVA is small or short. This constitutes the majority of Brink's cases of 'high terminating anterior descending branch'. This, again, is purely an individual variation. There is no constant correlation between the origin of a major or minor LVA at the bifurcation and the distance travelled by the anterior interventricular artery.

3. *Right Coronary Preponderance*

Schlesinger[7] discussed the application of right coronary preponderance to the incidence of coronary artery thrombosis. Brink stated that 'the *great majority* (my italics) of Bantu hearts so far studied have been shown to belong to the right coronary pattern'. As he only studied 15 specimens this is an invalid generalization. Schlesinger meant that the right coronary artery also supplies part of the left ventricular wall posteriorly in the region of the interventricular septum. However, Adachi[9] found no racial variation in the ratio of right and left coronary arterial distribution in this area in large samples from 4 races, though 3 types of individual variation were noted. In all 4 races right ventricular preponderance occurred in 68% (mean) of cases. Campbell[5] analysed the distribution of the coronary arteries in this region in 50 White hearts. He described 5 main types of distribution, wherein the right coronary artery 'preponderates' in 74% of cases. In his series of 15 Bantu hearts, Brink found 11 (i.e. 73%) exhibiting this feature. Thus there is no cause for his claim that right artery preponderance is a particular feature of the South African Bantu negroids.

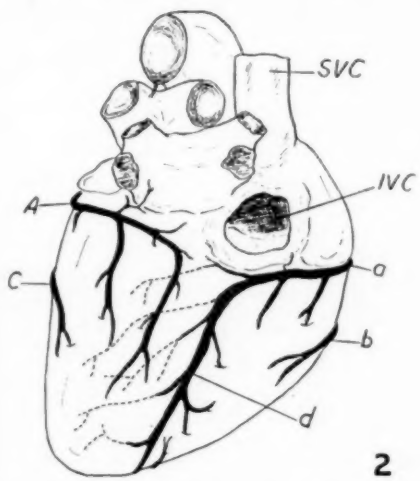

Fig. 2. Diagram illustrating arteries of heart, viewed from below. In cases of 'right coronary preponderance', the ramus interventricularis posterior of the right coronary artery sends large ramifying branches (indicated by stippled lines) across the interventricular sulcus to supply the wall of the left ventricle, replacing the terminal branches of the ramus circumflexus of the left coronary artery.
A—ramus circumflexus; C—a branch of the left marginal artery; a—right coronary artery; b—a branch of the right marginal artery; d—ramus interventricularis posterior of the right coronary artery.

FURTHER NOTES ON TERMINOLOGY

The anatomical information on coronary arteries in the literature is sparse and the terminology is most variable. It has been indicated that Spalteholz's classification[4] is confusing. The majority of modern text-books (Aitken *et al.*,[10] Last,[11] Yoffey,[12] Wood Jones,[8] Grant and Brash,[16] and Johnston and Whillis[14]) describe the left coronary artery as arising from the left posterior aortic sinus, passing to the left and then forwards between the root of the pulmonary trunk and the auricle of the left atrium to the upper end of the anterior interventricular groove. Here it gives off an interventricular branch (called 'the anterior interventricular artery' by Wood Jones[8]), and the left coronary artery then passes round the left surface of the heart, in the left part of the atrioventricular groove, where it comes into relation with the coronary sinus and ends by anastomosing with the right coronary artery. In *An Atlas of Anatomy* by Grant,[13] Fig. 409 illustrates the left coronary artery dividing at the top of the interventricular groove into a circumflex branch and an 'interventricular (anterior descending) branch'. This division is also shown by Woerdeman[15] in Fig. 289. Of all the above text-books, only Wood Jones[8] and Aitken *et al.*[10] mention a 'left marginal branch', while in Gray's *Anatomy* (30th edition, p. 713) in Fig. 692 a large unnamed branch, larger than the parent trunk of the left coronary artery from which it arises, is figured in the position of this 'left marginal artery'. Grant and Brash[16] also indicate the left marginal artery in Figs. 1,057 and 1,058, as does Woerdeman[15] in Fig. 289. This 'left marginal artery' cannot be the same as the minor LVA because when the minor LVA is present a large branch is usually seen to run along the left margin of the heart (as seen from the front) towards the apex (Figs. 3 and 4). Usually, when this branch is very large, the ramus circumflexus is seen to continue as a small or minute vessel in the atrioventricular groove.

Last[11] states that the parent trunk of the left coronary is generally called the 'circumflex branch of the left coronary artery' by clinicians. Although many of the modern text-books have adopted this description, it is strange that the *Nomina Anatomica* has followed the older text-books (e.g. Piersol,[17] Spalteholz[4]), where the left coronary artery is described as dividing into 2 major branches at the upper end of the anterior interventricular groove. Piersol,[17] however, refers to the interventricular artery as the ramus descendens anterior. The observations made in the present series can be summarized as follows:

(1) The left coronary artery commonly gives off a branch at the upper end of the anterior interventricular groove (the minor or major LVA), which may occasionally be even larger than the 'parent trunk'.

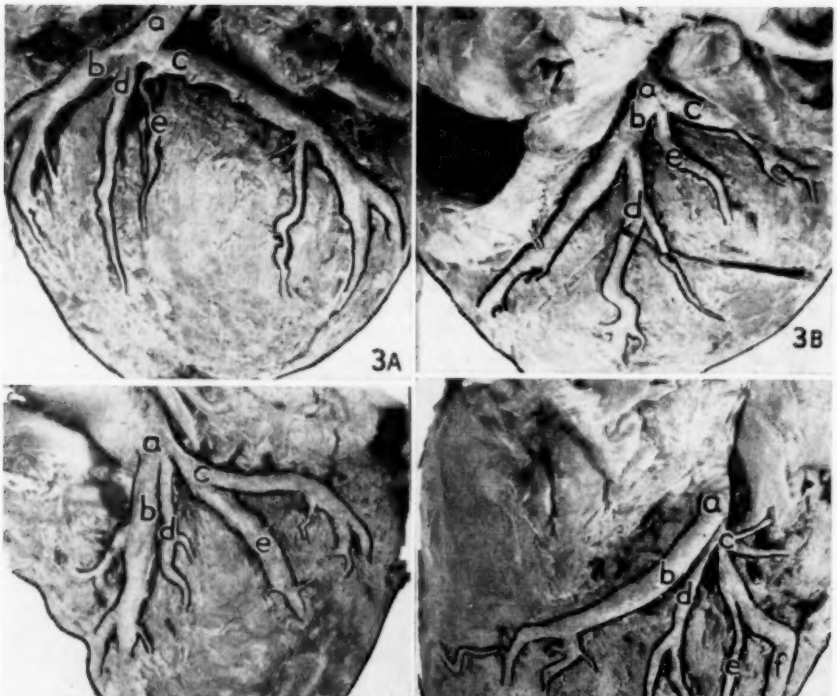

Fig. 3. Hearts of European individuals. In 3A the 'third primary division' is formed by the major LVA, the minor LVA arising just to the left of the bifurcation. In 3B, the '3PD' is formed by the minor LVA.*

Fig. 4. Hearts of Bantu individuals. In both, the major LVA arises at the bifurcation of the left coronary artery. In 4A the major LVA is small and the anterior interventricular artery gives off large branches to supply the region of the apex. In 4B the major LVA supplies a much larger part of the ventricular surface, as far as the apex.*
a—left coronary artery; b—ramus anterior interventricularis; c—ramus circumflexus; d—major left ventricular artery; e—minor left ventricular artery; f—left marginal artery.

(2) The left coronary artery usually has its axis directed in the line of the anterior interventricular artery, the so-called 'parent trunk' then 'continuing' at almost a right angle to the original direction of the flow.

(3) In addition, this 'parent trunk' is usually narrower in calibre than the anterior interventricular branch and may even end before it reaches the posterior portion of the atrioventricular groove; often most of its blood is directed along the left marginal branch towards the apex:

In the light of these observations it appears more logical to consider the 'parent trunk' of the left coronary artery beyond the upper end of the anterior interventricular groove as a branch of the left coronary artery. Thus the terminology of the *Nomina Anatomica* (1955) would be acceptable and text-books should revert to the old description wherein the left coronary artery divides into 2 branches at the upper end of the anterior interventricular groove, namely, the ramus interventricularis anterior and the ramus circumflexus.

CONCLUSIONS

From a series of 83 Bantu, 86 European and 109 Coloured hearts there is sufficient evidence to indicate that the anatomical distribution of the coronary arteries in Bantu hearts is not significantly different from that of the other racial groups studied. Where 'racial variants' have been claimed previously, careful observations and interpretations indicate that such differences may be ascribed to individual variations.

Just as the lung is divided into bronchopulmonary segments, so it will become necessary to describe the common variations of the branches of both coronary arteries to determine the myocardial areas supplied by each branch. Because of the rapid advances in cardiac surgery this study will be invaluable. I am at present carrying out a preliminary study in this respect.

I am very grateful to Miss S. A. Girardin, B.Sc., who gave invaluable assistance in the dissection of the specimens and drawing of the figures. I am also grateful to the staffs of the Pathology Department, University of Cape Town, and the Police Morgue, Cape Town, and to Dr. M. Rogoff, of the Pathology Section, Criminal Investigation Department, Nairobi, who kindly provided specimens.

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A CHRONIC CICATRIZING LESION OF THE STOMACH — PROBABLY SYPHILITIC IN ORIGIN

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Thirty-three years ago Rutherford Morison[1] pointed out that the chronic inflammatory swellings produced by syphilis and tuberculosis are not infrequently mistaken for malignant disease. He stated: "It has often occurred to me in palliative operations for 'hopeless cancer', when they have been successful beyond the most optimistic expectations, that other surgeons must have had similar experiences. Gastro-enterostomy for 'hopeless cance rof the pylorus', entero-anastomosis for 'inoperable cancer' of the small gut, and colostomy for 'irremovable malignant obstruction of the colon', have all been followed by entire relief of the obstruction for which the operation was performed, and at the end of 10-20 years, a few of these patients are alive and well. The probable explanation is that tubercle or syphilis . . . misled us because some have developed other tuberculous lesions and others have been cured by a course of iodide and mercury." The following case is of considerable interest, especially because of the difficulty in establishing a diagnosis on the clinical, radiological and histological evidence.

CASE REPORT

An 11-year-old Coloured female was admitted to the Red Cross War Memorial Children's Hospital, Rondebosch, Cape, on 4 March 1957. She complained of a steady loss of weight associated with anorexia for one year before her admission to hospital. For 3 weeks before admission she had been vomiting food recently eaten and had experienced attacks of postprandial epigastric pain which was relieved by induced vomiting. There were no other relevant features on special interrogation of the patient.

The patient is an only child. Apart from 2 abortions 5 and 8 years after the birth of the patient, her mother had had no other pregnancies or abortions.

On examination the patient weighed 35¼ lb. (The normal weight for an 11-year-old child is 88·4 lb. S.D. 17·4 lb.) There was marked loss of subcutaneous fat and muscle substance. The patient had a dry skin with associated follicular hyperkeratosis over the extensor aspects of the upper arms and legs. In the left groin there was a scar of a healed apocrine gland infection. There were 2 perforations (Fig. 1) in the soft palate communicating with the nasopharynx. No abdominal mass could be palpated. The hymen was intact. There were no other positive findings on general examination.

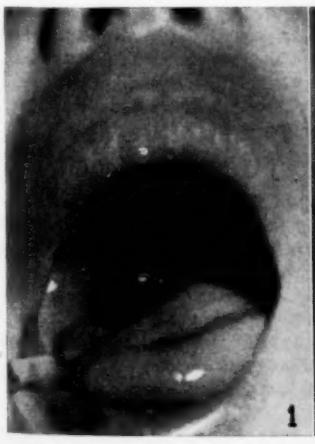


Fig. 1. Perforations in the soft palate.

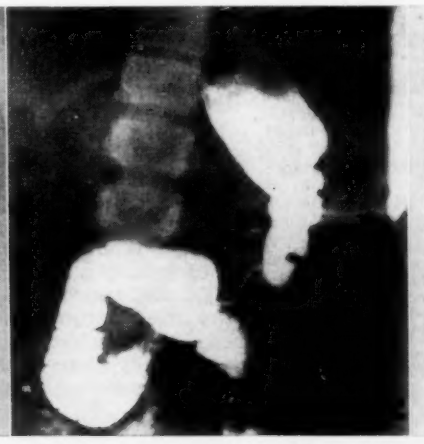


Fig. 2. A barium-meal examination showing marked narrowing of a segment of the pyloric antrum.

Fig. 3. A specimen of the stomach and omentum.

Special Investigations

Bedside and side-room. The urinalysis was normal. The haemoglobin was 13·5 g. per 100 ml. and the sedimentation rate 87 mm. in 1 hour (Westergren). The Mantoux test ($\frac{1}{1000}$ old tuberculin) was negative.

Radiological (Dr. E. van der Burg). A barium-meal examination was carried out on 7 March 1957 (Fig. 2). There is marked narrowing of a considerable segment of the pyloric antrum. The narrowing appears to have occurred at the expense of both the greater and lesser curvature aspects. Although throughout this examination the fundus of the stomach appeared to be distensible and not rigid, the body of the stomach on the other hand showed a constant serated appearance on the greater curvature aspect. On the lesser curvature of the stomach at about the region of incisura there was a small rather flat projection suggestive of ulceration.

Examination of the skull and long bones failed to show any evidence of bone or joint abnormality.

Bacteriological. Kirschner culture for *M. tuberculosis* in the gastric lavage was negative. Blood Wassermann and Kahn tests were both positive. The mother's blood Wassermann and Kahn tests were both positive; the father's blood Wassermann and Berger tests were both positive, while the Kahn test yielded a doubtful positive result.

Biochemical. The blood urea was 60 mg. per 100 ml.; serum albumin 3·1 g. per 100 ml.; serum globulin 4·4 g. per 100 ml.; zinc turbidity 40·1 units; thymol turbidity 12·4 units; thymol flocculation +++; total bilirubin 0·790 mg. per 100 ml.

Course before Operation

From the day of admission the patient was put on a high-calorie, low-residue diet but it was found necessary to supplement her oral intake of fluids with intravenous dextrose and serum. During this time the patient would vomit 150-250 ml. of fluid on certain days, but sometimes she would go for 2 days without vomiting.

Treatment with procaine penicillin 600,000 units daily was commenced on 11 March 1957. Six days after the administration of penicillin therapy, the patient vomited 765 ml. of fluid. The next day she vomited 720 ml. whereas she had taken only 480 ml. of fluid by mouth. As the patient's condition appeared to be deteriorating in spite of intravenous therapy, it was decided to perform a laparotomy the next day.

Operation and Subsequent Course

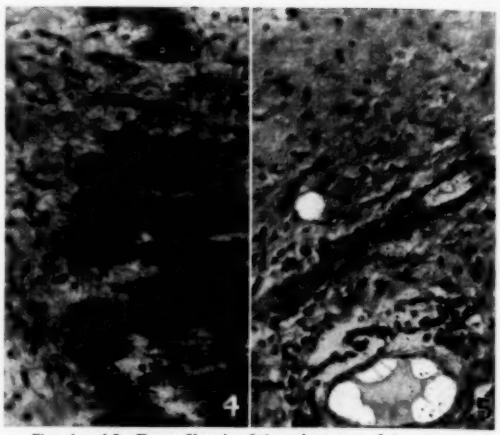
On 19 March 1957 a laparotomy (Prof. J. H. Louw) was performed. The stomach was small, with considerable thickening of the walls throughout its whole length. This thickening commenced abruptly at the oesophago-gastric junction and terminated likewise at the pylorus. The walls were firm and smooth and encroached considerably on the lumen, especially of the pyloric antrum.

There were several enlarged glands along the greater curvature and also in the left gastric and subpyloric groups. These were firm and appeared hyperplastic. Further exploration showed no other abnormalities.

The nature of the pathology was not clear. In some respects it resembled a diffuse infiltrating carcinoma or localized lymphoma. In others it resembled a chronic inflammatory process. On account of the possibility of malignancy a total gastrectomy was performed. Continuity was re-established by an antecolic oesophago-jejunal anastomosis.

Pathology Report (Dr. D. McKenzie). 'The specimen (Fig. 3) consists of a stomach and omentum. The stomach measures 7 cm. on the lesser curvature. There are small glands along the greater curvature up to 0·5 cm. in diameter. The pyloric canal just admits a small probe. The muscle in this area is hypertrophied and is glistening in appearance and firm in consistency. The submucosa and mucosa in this area do not appear to be affected. The wall of the stomach appears thickened throughout its whole length but the glistening appearance of the muscle terminates at the pylorus distally and approximately in the region of the mid-gastric sphincter proximally. The cut surface of the lymph nodes show no obvious abnormality.

Histology (Figs. 4 and 5) shows dense fibrosis of the submucosa; the process extends to the proximal end of the stomach but is slightly less dense in this area. Fibrosis extends into the muscle layer and there is quite considerable replacement of muscle by fibrous tissue. Distally the fibrotic process ceases abruptly at the pylorus and the duodenum is normal. The gastric mucosa is lost in several areas and where it is present just adjacent to the epithelium there is considerable vascularization of the tissue. There is patchy filtration of chronic inflammatory cells maximal just below the mucosa—these cells are mainly lymphocytes and occasional plasma cells. There are no endarteritic changes in the vessels. Spirochetes could not be demonstrated in any of the sections stained by the Warthan-Starry method. The lymph nodes are normal. This is a chronic cicatrizing gastric fibrosis which histologically gives no indication of the aetiology of the process. Any attempt at specific diagnosis would have to rest on the sum total of other evidence.'



Figs. 4 *and* 5. Dense fibrosis of the submucosa of the stomach.

The day after operation, the patient showed signs of congestive cardiac failure. She was successfully treated with intravenous digoxin. The remainder of the patient's postoperative course was uneventful. Bowel sounds were heard on the 2nd postoperative day and intravenous fluids were discontinued after the 4th postoperative day. The stitches in the abdominal wound were removed on the 11th postoperative day. Penicillin, together with streptomycin 0·25 g. twice a day, was continued until the 13th postoperative day. When the patient was discharged on the 36th postoperative day she weighed 52 lb.

Second Admission

On 26 June 1958 the patient was readmitted for examination. During the preceding 14 months she had been in good health. She was able to eat 3 meals a day without discomfort, and had not had more than 3 bowel actions a day. The stools were well formed. She had been attending school regularly and her scholastic achievements were equivalent to those of a White child of the same age.

She weighed 73 lb. (normal weight for a 12-year-old child is 100·4 lb. S.D. 18·8 lb.)—a weight increase of 37 lb. since her first admission. No abnormal features apart from the perforation in the soft palate and healed apocrine-gland infection, which were present on her first admission, were noted.

The fact that this child has been virtually free of post-gastrectomy symptoms merits comment. The ability of a few patients subjected to total gastrectomy to maintain normal body weight, is thought to be due to true reservoir function developing in the upper small intestine.[9]

Special Investigations

Bedside and side-room. The haemoglobin was 10·3 g. per 100 ml.; the haematocrit was 33; the sedimentation rate was

15 mm. in 1 hour (Westergren). On examination of a peripheral blood smear the erythrocytes were normochromic and normocytic.

Radiological. A barium-meal examination performed on this admission showed no hold up of barium at the lower end of the oesophagus. The afferent and efferent loops of the jejunum were normal.

Biochemical. Blood urea 18·5 mg. per 100 ml.; serum albumin 4·5 g. per 100 ml.; serum globulin 2·56 g. per 100 ml.; zinc turbidity 27·2; thymol turbidity 5·53; thymol flocculation 0.

Bacteriological. The blood Wassermann and Kahn tests were still both positive.

DISCUSSION

In this patient the presence of a chronic cicatrizing fibrotic lesion involving the stomach together with a positive Wassermann reaction suggests a diagnosis of tertiary syphilis of the stomach. The age of the patient together with positive serological evidence of syphilis in the parents is in favour of congenital infection.

Syphilis of the stomach is unquestionably a rare lesion. Estimates of incidence of gastric syphilis are very difficult to make and it is often impossible to judge the validity of the reported cases.[2] Congenital syphilis of the stomach is rarer still. In a recent review of world literature, Mendl *et al.*[2] were able to find only 10 cases.

In 1918, Caster and Mathias[3] held the view that every case of gastric ulcer was due to either acquired or congenital syphilis. Four years later, Crookshank[4] stated that in the diagnosis of syphilis of the stomach one implied the association of (1) syphilitic infection, (2) a gastric syndrome, and (3) a specific (syphilitic) lesion of the stomach. The diagnosis was unjustifiable unless (1) and (3) were joined to (2).

In the past, attempts have been made at diagnosing gastric syphilis on the basis of certain clinical findings.[5] Today few clinicians, if any, would venture such a diagnosis on the basis of suggestive clinical findings even if the Wassermann reaction is positive, which it is in the vast majority of reported cases.

If a patient who is under 45 years of age presents with symptoms suggestive of a gastric carcinoma, but the symptoms are of considerable duration and the Wassermann reaction is positive, then a diagnosis of gastric syphilis should be considered. Achlorhydria is invariably present in gastric syphilis but the presence of achlorhydria in the adult is of no value in the differential diagnosis of syphilis and carcinoma of the stomach. In children, gastric anacidity is rare[6] and its presence is therefore of more value. The radiographic findings usually suggest a malignant lesion of the stomach.

In a suspected case of gastric syphilis, the therapeutic response to penicillin therapy is of diagnostic value. Each case must be judged on its own merits before embarking on a therapeutic test. It would be wrong to treat a positive Wassermann reaction while the patient is subject to a gastric carcinoma which requires urgent surgery. Even a favourable therapeutic response to antisyphilitic therapy may not in itself be regarded as proof of the syphilitic nature of the lesion. Rafsky *et al.*[7] have pointed out that non-syphilitic lesions may not heal until the associated syphilis is treated.

Harris and Youmans[8] state that when the syphilitic lesion is located near the pylorus, obstruction may be worse after antisyphilitic treatment and may require surgical intervention. This is a possible explanation of the increased frequency of vomiting in our patient 6 days after commencement of penicillin therapy.

The histological lesion in gastric syphilis is not pathognomonic and the only microscopic proof is the demonstration of spirochaetes which have the morphological characteristics of *T. pallida*, in the lesion.[10] If one adopts the latter criterion syphilis of the stomach has been histologically proved on only 2 occasions.[11, 12]

Mendl *et al.*[2] have given a classification in 4 stages of the radiological appearances in gastric syphilis. Their 4 stages correspond to a pathological classification described by Davicovic,[13] who describes 4 different evolutional stages of gastric syphilis. These stages are: a local plaque-like submucous infiltrate; an overgrowth of this infiltrate to produce a so-called syphiloma; a local annular fibrotic lesion; and, finally, a diffuse leather-bottle infiltration of the stomach.

While the classification described by Mendl *et al.*[2] is of value in reminding us that syphilis of the stomach may mimic other gastric lesions radiologically, none of the radiological appearances described is diagnostic of syphilis. This is understandable because classification of syphilis of the stomach is based on pathological criteria in which the stages described may be produced by gastric lesions other than syphilis.

We feel that any attempt which is made at describing syphilis of the stomach in terms of stages must inevitably lead to the false conclusion that syphilis of the stomach exists as a morphological entity. Syphilitic catarrh and chronic syphilitic gastritis[14] are nebulous terms which belong to the past. Aird[14] states that these terms, together with terms such as syphilitic round ulcer, diffuse syphilitic, local syphilitic fibrosis, and local pyloric stenosis, describe gastric lesions which in most cases are not syphilitic at all.

Differential Diagnosis

In our patient a total gastrectomy was performed in the belief that the patient had a primary gastric lymphoma. In this condition pain, dyspepsia, anorexia and loss of weight are the main symptoms.[15] A mass may be palpable.[16, 17] Achlorhydria is not a feature of gastric lymphoma.[18]

Since 1949, when Ross[19] first described a case of Crohn's disease of the stomach, there have been 5 further reports[20-24] of involvement of the stomach in Crohn's disease. The subject of non-specific granulomatous disease of the proximal gastro-intestinal tract has been reviewed by Zeifer.[25] He states that the positive pre-operative diagnosis of non-specific granulomatous disease of the proximal gastro-intestinal tract is virtually impossible, since it will depend on exclusion of diseases with granuloma-producing qualities. Despite the most painstaking efforts to exclude these processes, a precise diagnosis will require surgical exploration in most cases. It is pertinent to mention, however, that none of the cases reviewed by Zeifer demonstrated a positive Wassermann reaction. The fact that there is often involvement of the gastro-intestinal tract other than the stomach suggests a diagnosis of Crohn's disease. The histology of the stomach in our patient was of no assistance in distinguishing this condition from syphilis of the stomach.

Tuberculosis, Boeck's sarcoid and amyloidosis of the stomach may also produce a clinical picture similar to that found in our patient but these conditions were not seriously considered in the differential diagnosis.

We must conclude that the diagnosis of syphilis of the stomach is difficult. The diagnosis in our patient was made on collateral evidence.

In 1931 Eusterman[5] described 93 cases of syphilis of the stomach, 'the rarity of which had in the past been stubbornly maintained by most pathologists and by some clinicians and surgeons'. He made a plea for the more frequent recognition of syphilis of the stomach. Today, because of a marked reduction in the incidence of syphilis and the emphasis on accuracy in diagnosis of upper gastro-intestinal lesions, the pendulum has swung in a direction opposite to that hoped for by Eusterman.

SUMMARY

1. The clinical, radiological and histological features of a chronic cicatrizing fibrotic lesion of the stomach in an 11-year-old Coloured female are described.

2. Difficulties in diagnosis of syphilis of the stomach are discussed.

3. It is concluded that the lesion in the stomach is a manifestation of late congenital syphilis.

We wish to thank Dr. I. Mirvish, who referred the patient to us; Dr. A. Bull, who administered the anaesthetic; Dr. B. Shandling for his assistance in reviewing the literature; Mr. G. McManus for the photographs and Dr. J. F. W. Mostert, Medical Superintendent, Red Cross War Memorial Children's Hospital, Rondebosch, Cape, for permission to publish this case.

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MINUTES OF THE ANNUAL GENERAL MEETING OF THE MEDICAL ASSOCIATION OF SOUTH AFRICA

HELD IN THE RIVIERIA RECREATION HALL, PRETORIA, ON WEDNESDAY 1 OCTOBER 1958 AT 10 A.M.

The President (Dr. H. Grant-Whyte) was in the Chair, and 48 other members were present. There were 8 proxies, which were declared to be in order.

1. *Notice Convening the Meeting*, published in the *Journal* of 23 August 1958, was taken as read.

2. *Minutes of the last Annual General Meeting*, held in Durban on 11 September 1957, were taken as read. It was proposed by Mr. Armitage, seconded by Dr. Heymann and *Agreed* that they be confirmed. The Minutes were signed by the President.

3. *Minutes of Extraordinary General Meeting*, held in Cape Town on 9 April 1958, were taken as read. It was proposed by Mr. Armitage, seconded by Dr. Purcell and *Agreed* that they be confirmed. They were then signed by the President.

There were no matters arising out of the Minutes.

4. *Annual Report of Chairman of Council*, published in the *Journal* of 26 July 1958: The President asked whether there were any questions arising out of the Report. There were no questions and the Chairman of Council (Dr. J. H. Struthers) moved the adoption of his Report. This was seconded by Mr. Currie and *Carried*.

5. *Financial Statement and Balance Sheet*, published in the *Journal* of 2 August 1958: It was proposed by the Honorary Treasurer (Mr. J. D. Joubert), seconded by Dr. Whitsitt and *Agreed* that the Financial Report be adopted.

6. *Election of Auditors*. It was proposed by Mr. Joubert, seconded by Dr. Sichel and *Resolved* that Messrs. Gurney, Notcutt & Fisher be reappointed auditors for the year 1959, at the remuneration of £200 per annum.

7. *Induction of President*. The retiring President, Dr. Grant-Whyte, stated that he wished to thank members for the honour which had been bestowed on him and on his Branch in his election to the Presidency. He apologized for the fact that his wife, due to unforeseen circumstances, could not be present, as she would have liked to express her personal appreciation also. He said that he had already extended his thanks through the *Journal* to the Chairman of Council, the Executive Committee, the Editor, the Secretaries and their full-time staff for the assistance they had given him and for having made his year of office easy.

Before installing Dr. R. Schaffer as the new President, he spoke of Dr. Schaffer's career and his status in the Association. He mentioned that the Association's Bronze Medal had been awarded to Dr. Schaffer. He felt that it was very fitting that in the presence of Dr. Ian Grant, President of the College of General Practitioners of Great Britain and a permanent Vice-President of the British Medical Association, Dr. Schaffer, a general practitioner, was being honoured by his election as President of the Association.

Dr. Grant-Whyte then installed Dr. Schaffer as President and extended good wishes to him for a successful year of office. *Acclamation.*

In reply, Dr. Schaffer expressed his sincere thanks for the honour bestowed on him and also on his Branch and Division, saying that it was an honour which was deeply appreciated. On behalf of the Federal Council he thanked Dr. Grant-Whyte for the services which he had rendered in the interests of the Association, and he expressed the hope that Dr. Grant-Whyte would continue to serve the Association for many years to come. *Acclamation.*

Dr. Schaffer then declared the meeting to be adjourned until 8.30 p.m.

ADJOURNED ANNUAL GENERAL MEETING OF THE MEDICAL ASSOCIATION OF SOUTH AFRICA, HELD IN THE RIVIERIA RECREATION HALL, PRETORIA, ON WEDNESDAY 1 OCTOBER 1958 AT 8.30 P.M.

Platform Party. His Worship the Mayor of Pretoria, Dr. R. Schaffer (President), Dr. H. Grant-Whyte (Immediate Past President), Dr. J. H. Struthers (Chairman of Council), Mr. J. G. A. du Toit (President of Northern Transvaal Branch), Dr. Ian Grant (President of British College of General Practitioners), Dr. E. Fasser (Honorary Secretary of Northern Transvaal Branch), Dr. A. H. Tonkin (Secretary of Association).

After the entry of the platform party and before the meeting commenced, the national anthem was played and this was followed by a piano solo delivered by Miss Averil Fasser.

Address of Welcome by Chairman of Council. Dr. Struthers referred firstly to the excellent arrangements which had been made for this meeting and the meetings of the Federal Council by the members and ladies of the Northern Transvaal Branch, and on behalf of Federal Council he thanked them for the work which they had done.

He proceeded to extend a welcome to His Worship the Mayor of Pretoria and expressed appreciation to him for having come to the meeting. He welcomed also Dr. Ian Grant, President of the College of General Practitioners of Great Britain and a permanent Vice-President of the British Medical Association, who was on a visit to the Union at the request and under the auspices of the General Practitioners' Group. He expressed sincere thanks to Dr. Grant for having travelled to the Union and for the valuable information which he had been able to supply on many matters. As a token of appreciation, he presented to Dr. Grant a copy of the book entitled *A History of Medicine in South Africa* which had recently been published by the Association.

Dr. Grant replied and conveyed to the assembly the greetings of the British Medical Association. In the Course of his address, he paid tribute to Dr. A. W. S. Sichel (a past President of the British Medical Association) and Dr. A. J. Orenstein (a Vice-President of the British Medical Association) for their loyal interest in the affairs of that Association. He concluded by saying that members of the Medical Association of South Africa and their wives who visited Britain could be assured of a sincere welcome by his Association.

Presentation of Awards. The following awards were presented by the President, after the accompanying citations had been read by the Secretary:

Silver Medal—Prof. A. Pijper (*in absentia*).

Bronze Medals—Dr. R. Schaffer, Dr. L. O. Vercueil, Dr. T. Schneider.

The Hamilton-Maynard Memorial Medal for 1957 was presented to Prof. D. J. du Plessis.

The President then presented to Dr. Grant-Whyte the insignia of Immediate Past President.

Obituary: The President referred to the passing of the late Dr. J. S. du Toit, one of the oldest and most esteemed members of the Association. The assembly stood as a mark of respect to his memory.

Presidential Address: Dr. Schaffer then delivered his Presidential Address, entitled 'The General Practitioner'*. This was received with *Acclamation*.

The meeting ended at 9.45 p.m., and thereafter the guests were received at a reception given by the President of the Northern Transvaal Branch and Mrs. J. G. A. du Toit.

* Published in this *Journal* of 4 October 1958 (**32,** 973).

IN MEMORIAM

HARRY GRUEBEL LEE, M.B., Ch.B.

On 23 February 1959 Dr. Harry Gruebel Lee died suddenly at the Johannesburg General Hospital at the age of 57 years.

After matriculating at King Edward VII High School, Johannesburg, his meeting with the late Hon. J. H. Hofmeyr, Chancellor of the Witwatersrand University, induced him to attend the newly opened Witwatersrand Medical School. This started a career which gave him the opportunity to use his warmth of spirit, his understanding of his fellow men and his love of study. As an undergraduate, his violin playing and his clever caricatures are still remembered by his fellow students.

Dr. Gruebel Lee

In 1927 he was appointed house surgeon to Mr. C. F. Beyers, with whom his subsequent friendship was a source of great pride to Dr. Gruebel Lee. His surgical training played a large part in the success which he achieved in general practice until he volunteered for the army in 1940.

He served in Egypt with the No. 5 S.A. General Hospital, as well as in an armoured field unit which saw action against Rommel's army in Libya. On his return to Cairo his association with Brigadier Tate, Director of Dermatological Services to the British Army in the Middle East, stimulated his interest in that branch of medicine.

After leaving the army he served as secretary to the Medical Ex-Service Men's Group, which he helped to form. He and Dr. L. I. Braun were among those who helped in the rehabilitation of many ex-service doctors.

In 1946 he was admitted to the specialist register as a dermatologist, and left for England for further studies in this field.

In the past 10 years he served as part-time consultant dermatologist on the staff of the General Hospital and the non-European Hospital, Johannesburg.

Dr. Gruebel Lee's ability to see beauty in all things caused him to express his talents in a deep love of music and in his many fine paintings. His keen sense of humour, indomitable spirit and deep compassion will continue to act as an inspiration to those who knew him.

E.G.L.

UNIVERSITY NEWS : UNIVERSITEITSNUUS

UNIVERSITY OF CAPE TOWN

Prof. J. F. Brock, Professor of Medicine at the University of Cape Town and Director of the Clinical Nutrition Research Unit established by the South African Council for Scientific and Industrial Research, is leaving South Africa on a 6 months' visit overseas.

From 13 April to 2 May Professor Brock is scheduled to present a series of lectures before medical school groups in the USA, under the auspices of the Squibb Centennial Fund Committee. He will speak on 'Human nutrition and its growing importance to clinical and investigational medicine' at, *inter alia*, the Cornell University Medical School, New York, the Stanford University Medical School, California, and the University of Washington, Seattle. This lecture programme marks the beginning of the second century of operation for the pharmaceutical house.

In May Professor Brock will attend the meetings of the American Federation for Clinical Research and the Association of American Physicians in Atlantic City, N.J. He will be in London from 23 to 26 June, when he will deliver two Humphry Davy Rolleston Lectures to the Royal College of Physicians and where he will also contribute a paper to the Ciba Foundation Tenth Anniversary Symposium on advances in medical science.

After leaving London, Professor Brock will again return to the USA, where he will represent the University of Cape Town and the Medical Association of South Africa at the Second World Conference on Medical Education of the World Medical Association in Chicago from 30 August to 4 September. During August Professor Brock will also attend one of the Gordon Conferences on 'Food and nutrition'.

UNIVERSITY OF THE WITWATERSRAND

A medical scholarship, worth £2,400 over 6 years, will be available to a non-European student of the University of the Witwatersrand as a result of the establishment of a £30,000 trust fund by Mr. Julius Robinson, a Johannesburg financier. Two other scholarships will be available in nuclear science and music or dramatic art, each worth £2,000 over 4 years.

The scholarship in medicine will be awarded to the most meritorius non-European starting his studies, and it will be to the value of £400 a year for the 6-year course for the degree of M.B., B.Ch. It is a condition of the scholarship that after graduation the holder will practise in South Africa or the Protectorates for at least 3 years. The scholarship will be available for award once in 6 years.

PASSING EVENTS : IN DIE VERBYGAAN

Dr. Norman Klass has left for 3 months' postgraduate study in Israel, Europe and England, and will return at the end of June. His practice is being carried on in his absence with the kind assistance of other local specialists in physical medicine.

* * *

Research Forum, University of Cape Town. A meeting of Research Forum will be held on Tuesday 21 April at 12 noon in the large A-floor lecture theatre, Groote Schuur Hospital, Observatory, Cape. Prof. J. G. Thomson will speak on 'Cirrhosis of the liver in the 3 ethnic groups in Cape Town'. All interested are invited to attend.

* * *

Lede word daaraan herinner dat hulle die Sekretaris van die Mediese Vereniging van Suid-Afrika, Posbus 643, Kaapstad, sowel as die Registrateur van die Suid-Afrikaanse Mediese en Tandheelkundige Raad, Posbus 205, Pretoria, moet verwittig van enige adresverandering. Versuim hiervan beteken dat die *Tydskrif* nie afgelewer kan word nie. Dit het betrekking op lede wat oorsee gaan sowel as dié wat binne die Unie van adres verander.

* * *

Philippine Medical Congress. The Philippine Medical Association will hold its 52nd Annual Convention at Davao City in the Southern Philippines on 7-10 May 1959, and extends a cordial invitation to any members of the Medical Association of South Africa who may find it possible to attend. The Secretary-Treasurer of the Philippine Medical Association is Dr. A. Z. Romualdez, 1850 Taft Avenue, Manila, Philippines.

* * *

South African Institute for Medical Research. At a Staff Meeting of the Institute held at Johannesburg on 9 March 1959, Drs. V. Bokkenheuser and H. J. Koornhof gave a lecture entitled 'The interaction of erythrocytes and endotoxins' in which the results of the experimental examination of the factors influencing the haemagglutination reaction, the elution of endotoxin *in vitro* and the uptake by erythrocytes *in vivo* were discussed and their practical significance indicated.

* * *

South African Institute for Medical Research, Johannesburg. Staff Scientific Meetings. On 13 April 1959 Dr. N. J. van Rensburg, Ph.D., M.B., Ch.B., F.R.I.C., will speak on the 'Artificial kidney in the treatment of renal disease' at 5.10 p.m. in the Institute Lecture Theatre, Hospital Street, Johannesburg. Tea will be served in the Theatre at 4.45 p.m.

Sir Macfarlane Burnet, F.R.S., Director of the Walter and Eliza Hall Research Institute, Melbourne, Australia, will give 3 lectures as follows:

27 April on 'Arthropod-borne virus infections' at 5.00 p.m. in the Lecture Theatre of the Poliomyelitis Research Foundation, Rietfontein, Johannesburg.

28 April on 'Auto-immune disease' at 8.15 p.m. at Medical House, Esselen Street, Johannesburg (under the auspices of the Medical Association of South Africa).

29 April on 'The production of antibodies' at 5.10 p.m. in the Harveian Lecture Theatre, Medical School, Hospital Street, Johannesburg.

* * *

SKF Laboratories (Pty.) Ltd., have 3 films available which are suitable for showing to medical and nursing audiences. These films are: 'Human gastric function', 'Psychiatric nursing—the nurse-patient relationship', and 'Urinary tract infections'. These 16 mm. films are available to medical meetings, medical schools, and nurses' training colleges free of charge. For further information and arrangements for booking these films contact SKF Laboratories (Pty.) Ltd., P.O. Box 784, Port Elizabeth.

* * *

International Society of Orthopaedic Surgery and Traumatology (SICOT). A South African National Committee for SICOT has been formed under the aegis of the South African Orthopaedic Association. The Committee consists of Mr. R. C. J. Hill (chairman), Mr. Cecil Morris (secretary) and Mr. G. F. Dommisse. Official affiliation to SICOT will be sought and doctors who desire to become members of SICOT and who have not already communicated with the secretary, Mr. C. Morris at 302 Lister Buildings, Jeppe Street, Johannesburg, are requested to do so as soon as possible. The triennial subscription is 1,200 Belgian francs (£8 11s. 6d.) and this subscription entitles the subscriber to receive all the publications concerning the next Congress and to attend or contribute to each Scientific Meeting of the Congress, free of charge. The next triennial Congress of SICOT takes place in New York in September 1960.

* * *

The Nineteenth International Postgraduate Medical Course in Carlsbad. With the 18th Course, which was held in Carlsbad in 1957, the Czechoslovak Physiatric Society resumed the old and good pre-war tradition of these Carlsbad courses. This society is organizing the 19th International Postgraduate Medical Course again in Karlovy Vary, Carlsbad, the world-famous spa, with a tradition of 600 years, from 14 to 19 September 1959. The main theme of this course will be gastric disease and, in addition, free themes from different branches of medical science. Papers will be read by leading research workers from Belgium, Bulgaria, England, Egypt, Finland, France, Germany, Hungary, Italy, Poland, Rumania, Soviet Union, Sweden and Czechoslovakia. The official languages are English, French, Russian, German, Slovak and Czech. There will be simultaneous translations into these languages. The scientific programme will be complemented by excursions and cultural and social events. For application and inquiries apply to the Czechoslovak Physiatric Society, Albertov 7, Prague 2, Czechoslovakia.

* * *

Nuffield Dominion Travelling Fellowship. Applications are invited for a travelling fellowship for study and research in medicine in the United Kingdom during 1960. The purpose of these fellowships is to enable medically qualified persons from the Commonwealth to obtain, in the UK, the postgraduate training and experience that may be necessary to prepare them to undertake medical teaching and research work in their own countries. The South African fellowship is open to European and non-European men and women who are nationals of the Union and who possess suitable talents and personal qualities. As a general rule candidates should be between the ages of 25 and 30 years. The award will be made by the Trustees on the recommendation of its Advisory Committee in South Africa, on whose recommendation, also, a second fellowship may be awarded. Fellowships are tenable for 1 year but, in exceptional cases, may be extended for a further period of a few months. Return travelling expenses to the UK are provided for the fellow and for his wife and an adequate allowance for the fellow's living and travelling expenses in the UK, academic fees, books, etc., and personal expenses. The total value accordingly varies, but will in no case be less than £900. The fellow will be expected to resume residence in South Africa on completion of the fellowship. Forms of application and copies of regulations may be obtained from the Registrars of all South African Universities or from the Hon. Secretary, Nuffield Foundation S.A. Advisory Committee, c/o University of the Witwatersrand, Johannesburg. Applications must be submitted before 30 April 1959.

NEW PREPARATIONS AND APPLIANCES : NUWE PREPARATE EN TOESTELLE

L-GLUTAVITE

Westdene Products (Pty.) Ltd. announce the introduction of L-Glutavite, produced by Chemway International of America, and supply the following information:

L-Glutavite is a new cerebral tonic for the relief of confusion, mental fatigue, anxiety, apathy, and loss of appetite, particularly in elderly patients. It is designed to improve oxidation and cellular nutrition in the brain by supplying optimal amounts of monosodium l-glutamate. This is the form in which glutamic acid, the only amino acid with specific beneficial effects on cerebral metabolic processes, is most readily absorbed. A therapeutic amount of nicotinic acid is added for its vasodilating effect on cerebral blood vessels together with coenzymes and other essential elements.

A controlled study carried out at the Harvard Medical School[1] showed that the patients who receive L-Glutavite showed definite improvement as compared with the patients in the other two groups. This was particularly evident in full social adjustment, self-care, sociability, mental status, thought content, and affect. A one-year study of L-Glutavite[2] confirmed that encouraging results were noted in mental and social behaviour in long-term hospitalized elderly schizophrenic patients. It was further noted that L-Glutavite could be safely and therapeutically used in poor-risk elderly patients who were unresponsive to the tranquilizers.

L-Glutavite is supplied in powder form in jars containing 180 gm. The dose is one teaspoonful 2 or 3 times a day given in fruit juice or other flavouring.

Further details may be obtained from the sole South African distributors, Westdene Products (Pty.) Ltd., P.O. Box 7710, Johannesburg.

1. Barrabee, P., Wingate, J. H., Phillips, B. D. and Greenblatt, M. (1956): Postgrad. Med., **19**, 485.
2. Fincle, L. P. and Reyna, L. J. (1958): J. Clin. Exp. Psychopath., **19**, 7.

INTRACEBRIN

Eli Lilly International Corporation, in introducing Intracebrin, supply the following information: Intracebrin is an oral vitamin-mineral product of therapeutic potency. Each distinctively shaped, bright orange tablet contains 11 vitamins and 10 minerals. Intracebrin is particularly valuable in the treatment and prevention of vitamin-mineral deficiencies. It provides potent nutritional therapy—an aid to faster recovery after surgery, febrile diseases, severe burns or injuries, or any prolonged convalescence. Intracebrin is especially useful in geriatrics—it provides, in addition to vitamins and minerals, intrinsic factor to 'boost' absorption of vitamin B_{12} in elderly patients whose absorptive ability is impaired. The dosage for Intracebrin is 1 tablet daily, or more as needed. Intracebrin is available in bottles of 30 tablets.

BOOK REVIEWS : BOEKBESPREKINGS

METABOLIC DISTURBANCES

Metabolic Disturbances in Clinical Medicine. Edited by G. A. Smart, B.Sc., M.D., F.R.C.P. Pp. viii+358. Illustrations. 45s. net. London: J. & A. Churchill Ltd. 1958.

The rapid and extensive advances made in the field of biochemistry and physiology are reflected in this notable book. It deals in general with the problems of metabolism in various disease processes, and inevitably there is some overlap in the presentation of related disturbances in the systems concerned.

The current concepts in disorders of nutrition, electrolyte and water disturbances, disturbances after injury, to mention only a few, are authoritatively presented. A timely review of the modern theories in atherogenesis and atherosclerosis is comprehensively handled.

A glance at the table of contents will at once excite the interest of student and practitioner, be he specialist or general practitioner, physician or surgeon, because it offers biochemical information and principles essential to everyday practice.

This book is confidently and highly recommended, and Professor Smart and his co-authors are to be congratulated.

A.L.

CARDIOVASCULAR DISEASES

Progress in Cardiovascular Diseases. Vol. I, No. 1. *Progress in Cardiac Surgery.* Edited by Charles K. Friedberg, M.D. Pp. 108+ix. Illustrations. Single issues $3.00 each, 4 successive issues $10.00. New York: Grune & Stratton, Inc. 1958.

Although *Progress in Cardiovascular Diseases* is similar to a journal in format, it is actually a series of soft-cover monographs—each book a symposium on one special aspect of this increasingly important field, to be published at approximately quarterly intervals.

Medical literature has become so vast that even in a single field one finds it difficult to review the current articles. When that special field is the cardiovascular field the task becomes well-nigh impossible.

The appearance of a new journal for cardiovascular diseases would, at first sight therefore, seem to be undesirable. If it were not for the fact that this journal is trying to bridge a gap by reviewing the progress in cardiovascular diseases, and but for the fact that it is to be edited by Friedberg, one would still have thought that careful selection in existing cardiovascular journals would have served an equally good purpose.

This first number of *Progress in Cardiovascular Diseases* deals with surgical aspects, and there are notable contributions from Friedberg in the form of a review; from Wood on the physician's responsibility in respect of surgical treatment of acquired valvular disease of the heart; and from Gibbon and Templeton on the current status of pump oxygenators.

The other papers are not of outstanding quality, but give a fair indication of the experience of some workers with particular cardiac defects and with particular surgical techniques.

One hopes that succeeding numbers will maintain and perhaps improve on the present standard.

A.J.B.

MODERN TRENDS IN ANAESTHESIA

Modern Trends in Anaesthesia. Edited by Frankis T. Evans, M.B., B.Sc., F.F.A.R.C.S., D.A. and T. Cecil Gray, M.D., F.F.A.R.C.S. Pp. ix+318+(13). 30 Figures. 76s.+1s. 9d. Postage. London: Butterworth & Co. (Publishers) Ltd. South African Office: Butterworth & Co. (Africa) Ltd., P.O. Box 792, Durban. 1958.

This book should not be confused with a *Modern Pract'ce of Anaesthesia* published by the same senior author and House. This is no remade second edition, but a new book that, refreshingly, lives up to its title.

There are 22 chapters, and 22 contributing authors from both sides of the North Atlantic and Scandinavia, whose names are known to any anaesthetist conscious of the leaders of his speciality. However, although the authority is predominantly English, their sources of reference are drawn from a wider circle, avoiding the insularity of thought of so much second-best medical writing from Britain and especially the USA. It is a pity that titles of papers quoted in reference were not given in a book of this nature.

This book does not cover the whole field of anaesthesia, and thus cannot be considered a conventional text-book. It is nevertheless worthy of attention. Although many chapters deal in a limited way with their subject, some may be considered as authoritative summaries of highest quality, such as the superbly written chapter on hypothermia by Gray, and the discussions of pulmonary ventilation by Dobkin, regional anaesthesia by Bonica, local anaesthetics by Geddes, and new drugs by Dundee. These all might well draw attention of postgraduate students. Important information is also assembled on hypnosis, cardio-respiratory pumps, and concepts of consciousness, all subjects difficult for the average anaesthetist to read up.

But the non-anaesthetist with no background knowledge will

also find reason for interest, because the book so often illuminates the many boundaries between anaesthesia and other specialities. Certainly, some of the remarks on statistics of fatalities and teaching and research transcend the limitation of speciality.

Judging from this book, the most important trend is for the anaesthetist to assume the role of clinical respiratory physiologist in the medical team outside the operating theatre. Thus it is to be regretted that formal chapters on thoracic surgery and neurosurgery were omitted, for much recent progress in anaesthetic and post-operative management has been made in these fields.

The book conforms to the good quality expected from the publisher, the text is well set out and apparently flawless. It is certainly important reading for the postgraduate student (and his examiner) and the prudent anaesthetist could do worse than to let it attract the attention of his surgical and especially physician colleagues.

P.A.F.

THIS SLIMMING BUSINESS

This Slimming Business. By John Yudkin, M.A., M.D., Ph.D., M.R.C.P., F.R.I.C. Pp. 190. 15s. London: MacGibbon & Kee. 1958.

Doctors are frequently asked for 'slimming diets' and are not likely to be happy about the type of advice appearing in magazines and newspapers.

The professor of dietetics, Queen Elizabeth College, London, has taken the trouble to write a small but authoritative book which many patients should be able to enjoy as well as to absorb. He writes entertainingly and has enlivened his pages with verses by Ogden Nash accompanied by amusing sketches, all bearing on food or on eating habits. He debunks many of the fallacies commonly held about weight reduction and adopts the sensible view that a varied diet which is low in carbohydrates is more likely to be maintained than the more elaborate regimes usually advocated; nor has he any time for the 'stunts' that may bring about a temporary loss of weight which disappears 'as soon as I begin to eat again, doctor'.

But isn't Dr. Yudkin expecting rather much when he asks his reader to get through 150 out of the 190 pages before the frequently hinted at diet begins to emerge? No doubt it is all highly logical, but the over-weight person is eager to learn what to do; the rest can come afterwards. If the physician is willing to outline these directions this little book would be a real help to the more intelligent patient.

F.W.F.

EMERGENCIES IN THORACIC SURGERY

The Management of Emergencies in Thoracic Surgery. By John Borrie, M.B.E., Ch.M., F.R.C.S. (Eng.), F.R.A.C.S. Pp. xi+340. Illustrations. New York: Appleton-Century, Crofts, Inc. 1958.

This book is a classic in its subject. Pioneer work of an outstanding nature has been done by concentrating vast experience and literature on the subject of thoracic emergencies in a book of 340 pages.

Useful space is conserved by describing only the relevant anatomical, physiological and pathological facts where they are indicated. With a minimum of text, numerous illustrations ensure absolute clarity, even for those students uninitiated in thoracic surgery.

This work will be of great value, not only to the thoracic surgeon, but also to the physician and general surgeon. 'Prevention of postoperative morbidity and mortality' stands out like a sentinel throughout the book. The stress laid throughout on the management of sputum retention by comparatively simple procedures is of paramount importance.

The final chapter (Cardiac Arrest) should be read first by every doctor who is prepared to carry out a surgical procedure under local or general anaesthesia. Ideally, no medical practitioner should undertake the most minor surgical procedure unless he has first acquainted himself with the management of cardiac arrest.

The first 3 chapters demand the close attention of the nursing staff. Proper armamentarium for the performance of basic procedures will save much time and inconvenience to the patient and surgeon.

E.J.J.

BOOKS RECEIVED : BOEKE ONTVANG

Inside the Living Cell. Some Secrets of Life. By J. A. V. Butler D.Sc., F.R.S. Pp. 174. 44 figures. 21s. net. London: George Allen & Unwin Ltd. 1959.

Lung Function Tests. An introduction. By B. H. Bass, M.D. M.R.C.P. (London). Pp. viii+72. 17 illustrations. 8s. 6d. net. London: H. K. Lewis & Co. Ltd. 1959.

Catechism Series: Mental Disorders. 5th edition. By W. S. Dawson, D.M., F.R.C.P., F.R.A.C.P., D.P.M. Pp. 68, 2s. 6d. net. + 5d. postage abroad. Edinburgh and London E. & S. Livingstone, Ltd. 1958.

Expert Committee on Environmental Sanitation, Fifth Report: Air Pollution. Technical Report Series No. 157. Pp. 26. 1s. 9d. Also available in French and Spanish. World Health Organization. 1958. Local Sales Agent: Van Schaik's Bookstore (Pty.) Ltd., P.O. Box 724, Pretoria.

Physical Diagnosis. 14th edition. By F. Dennette Adams, M.D. Pp. xiii+926. Illustrated. 96s. London: Baillière, Tindall and Cox Ltd. 1958.

Klinische Methoden der Blutgerinnungsanalyse. Von Prof. Dr. J. Jürgens und Doz. Dr. F. K. Beller. xii+408 Seiten. 104 Abbildungen. DM 56.00. Stuttgart: Georg Thieme Verlag. 1959.

Die intragluteale Injektion. Eine Erläuterung der anatomischen und klinischen Grundlagen. Von Prof. Dr. A. von Hochstetter, Priv.-Doz. Dr. H. K. von Rechenberg und Dr. R. Schmidt. 28 Seiten. 19 teilsmehrfarbige Abbildungen. DM 4.80. Stuttgart: Georg Thieme Verlag. 1958.

Leukemia. By William Dameshek, M.D. and Frederick Gunz, M.D., Ph.D. Pp. xi+420. 142 figures. 815.75. New York and London: Grune & Stratton, Inc. 1958. Obtainable in South Africa through Westdene Products Ltd., P.O. Box 7710, 23 Essanby House, Jeppe Street, Johannesburg.

CORRESPONDENCE : BRIEWERUBRIEK

RECORDED LECTURES

To the Editor: It would appear to be an established practice in the USA to have interesting medical lectures recorded on tape and to make these tapes available, for a small consideration, to members of the medical profession.

This procedure would be of great value to those of us who live in the country and who cannot enjoy the privilege, as our city colleagues do, of attending lectures by some of our own learned teachers or of well-known visitors from other lands.

Perhaps you would consider ways and means of instituting a similar service in this country. I should be most grateful if you would investigate this matter, for I am sure that there are many doctors in this country who would gladly subscribe to such a scheme.

F. A. van Heerden

Bergville, Natal
25 March 1959.

PROLAPS VAN DIE UTERUS

Aan die Redakteur: In die *Tydskrif* van 28 Februarie 1959 verskyn 'n artikel van dr. H. J. H. Claassens[1] oor prolaps van die uterus in swangerskap.

In sy opsomming word melding gemaak van postpartum prolaps wat volgens die skrywer nog nie van tevore beskryf is nie. Graag wil ek u aandag vestig op 'n artikel van 9 September 1950,

bladsy 749, wat verskyn het in dieselfde *Tydskrif*,[2] waarin die kwessie van postpartum prolaps deeglik bespreek is en waar ook 'n foto eenders as dié van dr. Claassens, verskyn het.

P. F. Venter

Departement Obstetrie en Ginekologie
Universiteit van Pretoria
Pretoria
26 Maart 1959

1. Claassens, H. J. H. (1959): S. Afr. T. Geneesk., **33**, 175.
2. Geldenhuys, F. G. (1950): *Ibid.*, **24**, 749.

SOCIAL COLUMNS AND ETHICAL PROCEDURE

To the Editor: Your correspondent *Sauce for the Goose*[1] must be a clairvoyant. Being a little late with reading my *Journal*, I was reading the issue of 14 March this evening. No sooner had I put it down, than I picked up my evening paper and there, sure enough, was the usual picture of one of the members of the Medical Council! In this Province, the papers are not complete without a picture of at least one of them every 2 weeks. Not only this, but the picture was directly above the evening crossword puzzle, a fact that I consider directly responsible for my inability to get the puzzle 'out'.

Please let us have a little less of the Council in the social columns. One finds it hard to believe that the person concerned remonstrated to any extent with the photographer *not* to take his photograph in view of the elegant pose.

Sauce for the Gosling

Durban
23 March 1959

1. Correspondence (1959): S. Afr. Med. J., **33**, 238.

THE ART OF CONSULTATION

To the Editor: In November last Dr. G. F. Abercrombie delivered the James McKenzie lecture to the College of General Practitioners in London, taking as his subject 'The art of consultation'. In inimitable fashion Dr. Abercrombie touched delightfully yet effectively on this dying art especially as it affects the general practitioner.

The general theme was that the general practitioner must learn to manage not only the patient and his relations and friends but upon occasion his specialist colleagues also. The important point was that the family doctor must remain in control unless, with the patient's consent, he delegated his authority temporarily for a special purpose.

It is with this latter point I wish to deal briefly. If a general practitioner hands his patient over for treatment, say surgical, to his colleagues, when should the patient be handed back to the family doctor? Some cautious surgeons insist on a follow-up of months. If during that time the surgeon requires information on another branch, as often as not he refers the patient to another specialist. I cannot recall exactly, but I have lost dozens and dozens of patients in this fashion. By the time the treatment is over, the patient has been in so many other hands that he has virtually forgotten what the general practitioner looked like or regards him as the instigator of a series of misfortunes, and does not return. The practitioner certainly will not get paid until all the other bills have been met, if then.

I feel that Dr. Abercrombie should be asked to print his address in full at some future date. His reference to cocky young housemen, statistically-minded physicians, overbearing know-all surgeons, the fact that the general practitioner does not necessarily have to accept the advice tendered, and the article as a whole, deserve greater attention and publicity.

K. M. Hairman

615-618 S.A. Mutual Building
Gardiner Street
Durban
21 March 1959

ANTI-EMETIC DRUGS

To the Editor: For the sake of accuracy, I must comment on your Editorial of 7 March 1959 under the above heading.[1] You state: 'Emesis can be produced by drugs stimulating the trigger zone or the vomiting centre itself, or by gastro-intestinal irritation, causing reflex stimulation of the vomiting centre. Anti-emetic drugs may block one or more of these mechanisms.' Let it be recorded that Wang[2] himself has said that the nausea and vomiting induced by gastro-intestinal irritants, psychological factors, sights and smells are the result of direct activation of the vomiting centre. The chemoreceptive emetic trigger zone is by-passed and clinical anti-emetic agents are therefore ineffective.

Further, may I bring your references up to date? Wang[3] has compared the anti-emetic effectiveness of two phenothiazine derivatives, perphenazine and chlorpromazine (1958). He found in the laboratory that the potency of perphenazine was 16·6 times greater than chlorpromazine when tested against 0·1 mg. per kg. of apomorphine, and 5-8 times as effective clinically as chlorpromazine. But, he points out, a higher potency rating, although in itself merely indicating a smaller dosage for a particular therapeutic effect, becomes highly significant and useful if the potential therapeutic agent is not accompanied by side-effects at equi-effective doses, or if it is effective in a large variety of disease conditions. In this connection, Scurr and Robbie[4] found no side-effects whilst investigating perphenazine in the prevention of post-operative vomiting (1958), whereas Burtles and Peckett[5] state that chlorpromazine had undesirable side-effects, including delayed recovery of consciousness, hypotension, dizziness, vasodilatation, occasurial restlessness, and pain at the site of the intramuscular injection (1957).

Wang goes on to say that perphenazine is a highly potent and versatile anti-emetic agent, and should be tried in cases of emesis not amenable to other therapeutic remedies; that perphenazine is reported to be effective in therapeutic trials for vomiting of pregnancy (Birnberg, personal communication), post-operative vomiting (Moore *et al.* 1958), radiation sickness (Dickson, 1958), and vomiting from miscellaneous causes (Preisig and Landman, 1958; Weiss *et al.* 1958).

M. Tonkin

P.O. Box 7539
Johannesburg
25 March 1959

1. Editorial (1959): S. Afr. Med. J., **33**, 196 (7 March).
2. Wang, S. C., Amols, W. and Merritt, H. H.: *Neural Mechanism of Emesis and Anti-emesis.* A.M.A. Exhibit, June 1957.
3. Wang, S. C. (1958): J. Pharmacol., **123**, 306.
4. Scurr, C. F. and Robbie, D. S. (1958): Brit. Med. J., **1**, 922.
5. Burtles, R. and Peckett, B. W. (1957): Brit. J. Anaesth., **29**, 114.

GASTRECTOMY

To the Editor: I read with great enjoyment the very instructive presidential address of Mr. J. Wolfowitz on gastrectomy.[1]

I hope, however, he will forgive me if, in reference to the statement that in the year 1929 in an exhaustive review of gastrectomy only 67 cases were found in the world literature, I observe that my first gastrectomy done in the same year certainly was not added to the 67 cases and that the same holds for daily gastrectomies done at that time already all over the world.

In that year it was my privilege to see a past master in gastrectomy, viz. Finsterer, do these operations as a daily routine at the Allgemeines Krankenhaus in Vienna. In spite of the primitive anaesthetics and pre- and post-operative care of those days, his mortality was consistently under 10%, thanks to superb operative technique under splanchnic anaesthesia; and Polya, the father of our present methods of anastomosis, was doing the same in Budapest.

Although admiring Mr. Wolfowitz's very thorough pre- and post-operative care and tests I personally feel that to take the blood pressure and pulse every 15 minutes for the first 2 hours and every hour for the ensuing 24 hours of a very sick patient will wear out even one who has not had an operation of the magnitude of a gastrectomy. Again, to put up an intravenous infusion every morning and to discontinue it at night, especially in the patient with a small vein—for instance a well-built female—causes too much psychic trauma.

In the days when I was personally responsible for the drip instead of leaving it to my assistant, as owing to age I unfortunately do now, I used as a routine measure to do a cutdown on the ankle or use the dorsal surface of the hand to get my vein. A cutdown having been employed, I slept well without fear of being notified by the night sister that the drip had stopped. Besides, the patient could be freely moved about in bed, and if necessary even got out of bed, without the intravenous drip being interfered with. In a series of 450 gastrectomies performed by myself

and assistants jejunostomy was never employed as a routine. Perhaps my experience with jejunostomy is limited, but in the cases I have done myself and seen there has been too big a percentage of regurgitation of intestinal digestive juices, with resultant excoriation of the skin. Every case has been a dreadful sight, which has put me off it for ever.

The very favourable figures for mortality and post-operative complications furnished by the author are really impressive, but one would have liked to know whether these were for cases of ulcers only or for neoplasms; also the size of the series of cases these figures are based on, bearing in mind the old saying that he who has had no death has not performed a hundred operations yet.

I sincerely hope that this is not construed as criticism for, performing a considerable number of gastrectomies yearly, I very much enjoyed reading Mr. Wolfowitz's excellent review.

William P. Steenkamp, Jr.

705 Volkskas Building
Adderley Street, Cape Town
25 March 1959

1. Wolfowitz, J. (1959): S. Afr. Med. J., 33, 254.

ADRENAL FUNCTION AT OPERATION

To the Editor: With the increasing use of cortisone has come the realization that as little as 2,000 mg. may induce frank adrenal atrophy.[1] According to Salassa *et al.*[2] adrenal insufficiency may persist for as long as 2 years after the end of cortisone treatment.

All will agree that in the event of serious illness or any operation one wishes to know how the adrenals are functioning; but it is often impossible, especially in the Bantu, to obtain a reliable history of cortisone treatment. It is therefore thought that others dealing with the same problem may be interested in the following procedure which is being instituted at the Baragwanath Non-European Hospital:

(*a*) All medical officers are required to record in the patient's notes any cortisone given.

(*b*) When a total of 1,000 mg. has been given the facts are recorded on a platinum chain bracelet fixed permanently round the patient's wrist, comprising a plate engraved on the one side with the total dose of cortisone and the date, and on the other side with the patient's hospital number and the diagnosis.

(*c*) Any subsequent increments of steroids are similarly entered on the bracelet. These bracelets, made in the orthopaedic workshop, have been in use for epileptics, penicillin sensitivity, etc., and are worn with some pride by our patients! Inscription is quickly done with an engraving machine.

(*d*) All medical officers, including those at the clinics, are being informed by circular of the approximate equivalents of other steroids to 2,000 mg. of cortisone or hydrocortisone, as follows: prednisone or prednisolone 400-500 mg., methyl prednisolone 350-400 mg., triamcinolone 350-400 mg., dexamethasone 40-50 mg. Needless to say these are equally liable to induce adrenal atrophy.

In this way it is hoped that when emergency cases are admitted in the night without records one will be forewarned of any adrenal insufficiency from previous cortisone therapy. It can then be met by some such regime as the following (adult doses):

Pre-operatively. Cortisone acetate, 100 mg. intramuscularly 12 hours before operation (if there is time) and 2 hours before operation.

At operation. Hydrocortisone in 5% dextrose in water at 10 mg. per hour intravenously during operation and for 6-12 hours post-operatively.

Post-operatively. Cortisone acetate as follows:
Day 1. 50 mg. intramuscularly every 6 hours.
Days 2 and 3. 50 mg. intramuscularly every 8 hours.
Days 4 and 5. 50 mg. orally every 8 hours.
Days 6 and 7. 25 mg. orally 3 times a day.
Days 8 and 9. 25 mg. orally twice a day.
Day 10. 25 mg. orally once a day.

These quantities may be modified according to the severity of the case.

At the same time stimulate the adrenal gland by giving ACTH, 20 mg. intramuscularly every 8 hours, from the 6th day until 2-3 days after oral cortisone has been stopped.

This same regime is used to replace any cortisone the patient may be on at the time operation becomes necessary.

We have been greatly helped in this matter by Dr. H. Seftel, to whom our thanks are tendered.

It is hoped that this letter will provoke criticism and suggestions for the better handling of this problem.

J. R. Duffield

Baragwanath Hospital
Johannesburg
24 March 1959

1. Hench, P. S. and Ward, L. E. in Lukens, F. D. W. (1954): *Medical Uses of Cortisone*. New York: Blakiston.
2. Salassa, R. M., Bennett, W. A., Keating, F. R. Jun. and Sprague, R. G. (1953): J. Amer. Med. Assoc., 152, 1509.

PROLAPSE OF THE UTERUS IN PREGNANCY

To the Editor: I was very interested to read an article on this subject by Dr. Claassens,[1] and was very surprised to learn that only 192 cases have been described. May I have the pleasure of adding another one to the list.

Mrs. M.M. was seen at the gynaecological out-patients department, Hope Hospital, Salford, in February 1952, complaining of procidentia. She had had her last period on 15 December 1951, but stated that she had had a similar bout of amenorrhoea 18 months previously.

Examination revealed a complete procidentia. The uterus, however, was enlarged to the size of a 10-12 weeks pregnancy. Her breasts were active. A frog test was done and the question of operation was shelved until pregnancy was finally excluded. She had been having some difficulty in passing urine, but had always managed.

On 16 March 1952 she developed complete retention and was admitted, in great pain. Relief was immediately obtained by passing a catheter, when over 40 oz. of urine was removed. The cause of the retention was obvious—a complete procidentia, once the uterus had enlarged to a certain size, would obviously obstruct the urine.

The problem was not easy, for the patient had a vagina of very wide calibre indeed. However, a number-13 ring pessary was found to hold up the prolapse and she was fairly comfortable when it was in place. She was allowed to go home the next day. About a week later she came back in very great discomfort, the ring having gone down the W.C. She was given further instructions in the use of the ring and told either to remove it or to hold it in position when she went to the toilet.

When she was 18 weeks pregnant we decided to try her without the ring, but the discomfort was too great and the ring was replaced. She kept the ring until she was about 36 weeks pregnant, and then it was possible to remove it without undue discomfort. She eventually had a breach delivery of a living male child. Both mother and child were fit and well after delivery.

The sequel is also rather interesting. The patient's periods commenced about 3 or 4 months after the delivery and were extremely heavy. After about 3 of these periods, she was readmitted and a vaginal hysterectomy and repair was performed. She made a good recovery. The endometrium of the uterus was reported as being typically 'Swiss cheese' endometrium, which, to me, was an unexpected finding.

The finding is interesting, because, about a year later, we had a 42-year-old patient with menorrhagia, for whom a diagnostic dilatation and curettage was done. The curettings here too revealed cystic glandular hyperplasia. This patient was advised to do nothing but observe what the future periods were like. Her chief worry was whether she could fall pregnant. We felt justified in assuring her that the chances of falling pregnant were extremely remote. However, 4 months later this lady was pregnant, and in due course she was delivered of a bonny male child. The sequel to this case was a happy one, for both parents and their other children dote on this child.

These cases make one think very much about the significance of the diagnosis cystic glandular hyperplasia. I should be interested to know if any of my colleagues have had similar experiences.

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1. Claassens, H. J. H. (1959): S. Afr. Med. J., 33, 175 (28 February).